DOCUMENT RESUME

ED 461 182 EA 031 504

AUTHOR Penrose, Perran
TITLE Planning and Financing Sustainable Education Systems in Sub-Saharan Africa. Education Research Paper. Reports.
INSTITUTION Department for International Development, London (England).
REPORT NO DFID-Ser-7
ISBN ISBN-0-90250-067-8
PUB DATE 1998-00-00
NOTE 40p.; Reprint of a paper originally issued in 1993.
AVAILABLE FROM Department for International Development, Education Division, 94 Victoria Street, London, England SW1E 5JL, United Kingdom. Web site: http://www.dfid.gov.uk.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Budgeting; *Educational Finance; *Educational Planning; Educational Policy; Elementary Secondary Education; *Foreign Countries; *School Support
IDENTIFIERS *Africa (Sub Sahara)

ABSTRACT

The first part of this paper describes some of the basic issues facing education policymakers in Africa, including the introduction of school fees and private provision of schools. Insufficient attention has been paid to how policy advice is implemented, especially to the relation between planning and budgeting. Most African public-sector budgeting procedures and formats have not changed significantly since colonial times, and they cannot cope with translating short- and medium-term adjustment policies into practice. The second part of this paper is concerned with approaches to strengthening and/or reforming the planning and budgeting for education in African countries. With the improvements described, better use can be made of external assistance. The objectives of the suggested changes are to enable countries to use their limited resources better and to avoid stop-go educational policies so that the capability of providing a sustainable and affordable education service can be achieved. In this respect, governments have a crucial role to play in the process of change, even if in some aspects the "market" will succeed where government planning has failed. (Contains 78 references.) (RT)

Reproductions supplied by EDRS are the best that can be made from the original document.

DFID Department for International Development

EA

reports

ED 461 182

EDUCATION RESEARCH

PLANNING AND FINANCING SUBTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA

Perran Penrose

Serial No. 7

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY:

S. Arthur

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

2

EM 031524

Department For International Development

EDUCATION RESEARCH

PLANNING AND FINANCING SUSTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA

Perran Penrose

Serial No. 7
ISBN: 0 90250 067 8
This is a 1998 reprint of a paper originally issued in 1993

Department For International Development

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

EDUCATION PAPERS

This is one of a series of Education Papers issued from time to time by the Education Division of the Department For International Development. Each paper represents a study or piece of commissioned research on some aspect of education and training in developing countries. Most of the studies were undertaken in order to provide informed judgements from which policy decisions could be drawn, but in each case it has become apparent that the material produced would be of interest to a wider audience, particularly but not exclusively to those whose work focuses on developing countries.

Each paper is numbered serially, and further copies can be obtained through the DFID's Education Division, 94 Victoria Street, London SW1E 5JL, subject to availability. A full list appears overleaf.

Although these papers are issued by the DFID, the views expressed in them are entirely those of the authors and do not necessarily represent the DFID's own policies or views. Any discussion of their content should therefore be addressed to the authors and not to the DFID.

LIST OF OTHER DFID EDUCATION PAPERS AVAILABLE IN THIS SERIES

No. 1 Pennycuick, D. 1993 'SCHOOL EFFECTIVENESS IN DEVELOPING COUNTRIES: A SUMMARY OF THE RESEARCH EVIDENCE' ISBN: 0 90250 061 9

No. 2 Hough, J.R. 1993 'EDUCATIONAL COST-BENEFIT ANALYSIS' ISBN: 0 90250 062 7

No. 3 Gray, L. et al 1993 'REDUCING THE COST OF TECHNICAL AND VOCATIONAL EDUCATION' ISBN: 0 90250 063 5

No. 4 Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN MALAWI' ISBN: 0 90250 064 3 (See also No. 24)

No. 5 Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN ZAMBIA' ISBN: 0 90250 065 1 (See also No. 24)

No. 6 Lewin, K. 1993 'EDUCATION AND DEVELOPMENT: THE ISSUES AND THE EVIDENCE' ISBN: 0 90250 066 X

No. 8 (not issued)

No. 9 Brock, C. Cammish, N. 1991 (Revised 1997) - 'FACTORS AFFECTING FEMALE PARTICIPATION IN EDUCATION IN SEVEN DEVELOPING COUNTRIES' ISBN: 1 86192 065 2

No. 10 Rogers, A. 1994 'USING LITERACY: A NEW APPROACH TO POST-LITERACY METHODS' ISBN: 1 86192 070 9

No. 11 McGrath, S. King, K. et al. 1995 (Reprinted 1997) 'EDUCATION AND TRAINING FOR THE INFORMAL SECTOR' Vol 1. and Vol. 2 - Case studies. ISBN: 1 86192 090 3

No. 12 Little, A. 1995 'MULTI-GRADE TEACHING: A REVIEW OF RESEARCH AND PRACTICE' ISBN: 0 90250 058 9

No. 13 Bilham, T. Gilmour, R. 1995 'DISTANCE EDUCATION IN ENGINEERING FOR DEVELOPING COUNTRIES' ISBN: 0 90250 068 6

No. 14 Barnett, E. de Koning, K. Francis, V. 1995 'HEALTH & HIV/AIDS EDUCATION IN PRIMARY & SECONDARY SCHOOLS IN AFRICA & ASIA' ISBN: 0 90250 069 4

No. 15 Gray, L. Warrender, A.M. Davies, P. Hurley, G. Manton, C. 1995 'LABOUR MARKET SIGNALS & INDICATORS' ISBN: 0 90250 070 8

No. 16 Lubben, F. Campbell R. Dlamini B. 1995 'IN-SERVICE SUPPORT FOR A TECHNOLOGICAL APPROACH TO SCIENCE EDUCATION' ISBN: 0 90250 071 6

No. 17 Archer, D. Cottingham, S 1996 'ACTION RESEARCH REPORT ON REFLECT' ISBN: 0 90250 072 4

No. 18 Kent, D. Mushi, P. 1996 'THE EDUCATION AND TRAINING OF ARTISANS FOR THE INFORMAL SECTOR IN TANZANIA' ISBN: 0 90250 074 0

No. 19 Brock, C. Cammish, N. 1997 'GENDER, EDUCATION AND DEVELOPMENT - A PARTIALLY ANNOTATED AND SELECTIVE BIBLIOGRAPHY' ISBN: 0 90250 076 7

No. 20 Taylor, P. Mulhall, A. 1997 'CONTEXTUALISING TEACHING AND LEARNING IN RURAL PRIMARY SCHOOLS:USING AGRICULTURAL EXPERIENCE' Vol 1 ISBN: 1 861920 45 8 Vol 2 (Case Studies) ISBN: 1 86192 050 4

No. 21 Kutnick, P. Jules, V. Layne, A. 1997 'GENDER AND SCHOOL ACHIEVEMENT IN THE CARIBBEAN' ISBN: 1 86192 080 6

No. 22 Bourne, R. Gundara, J. Dev, A. Ratsoma, N. Rukanda, M. Smith, A. Birthistle, U. 1997 'SCHOOL-BASED UNDERSTANDING OF HUMAN RIGHTS IN FOUR COUNTRIES. A COMMONWEALTH STUDY' ISBN: 1 86192 095 4

No. 23 Stephens, D. 1998 'GIRLS AND BASIC EDUCATION: A CULTURAL ENQUIRY' ISBN: 1 86192 036 9

No. 24 Williams, E. 1998 'INVESTIGATING BILINGUAL LITERACY: EVIDENCE FROM MALAWI AND ZAMBIA' (Updated and combined reissue of Serial No. 4 & 5) ISBN: 1 86192 041 5

No. 25 Swainson, N. Bendera, S. Gordan, R. Kadzamira, E.1998 'PROMOTING GIRLS' EDUCATION IN AFRICA: THE DESIGN AND IMPLEMENTATION OF POLICY INTERVENTIONS' ISBN: 1 86192 046 6

No. 26 Rosenberg, D. Sidibé, A. Radebe, T. Amaral, W. Odini, C. 1998 'GETTING BOOKS TO SCHOOL PUPILS IN AFRICA' ISBN: 1 86192 051 2

No. 27 Penrose, P. 1998 'COST SHARING IN EDUCATION' ISBN: 1 86192 056 3

OTHER DFID EDUCATION STUDIES ALSO AVAILABLE

Swainson, N. 1995 'REDRESSING GENDER INEQUALITIES IN EDUCATION'

Wynd, S. 1995 'FACTORS AFFECTING GIRLS' ACCESS TO SCHOOLING IN NIGER'

Phillips, D. Arnhold, N. Bekker, J. Kersh, N. McLeish, E. 1996 'EDUCATION FOR RECONSTRUCTION'

Rosenberg, D. 1996 'AFRICAN JOURNAL DISTRIBUTION PROGRAMME: LVALUATION OF 1994 PILOT PROJECT'

Perraton, H. 1998 'REWARDING WRITERS OF COURSE MATERIAL FOR OPEN AND DISTANCE LEARNING'

All available free of charge from DFID Education Division, 94 Victoria Street, London SW1E 5JL.
A free descriptive catalogue giving further details of each paper is also available.

TABLE OF CONTENTS

Part I ISSUES 1

A. Introduction and Background 1

B. Resources, Costs and Data 4

C. Alternative Sources of Education Finance 6

Part II APPROACHES TO REFORM 9

A. Issues in Planning and Budget Reform 9

B. Implementing Improved Systems 12

C. Conclusions: Affordability and Sustainability 20

FIGURES

Figure 1: Pyramidal Structure of Education Planning and Budgeting 14

AFFORDING THE UNAFFORDABLE: PLANNING AND FINANCING SUSTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA

Summary

The first part of this paper sets out briefly some of the basic issues facing education policy makers in Africa, including the introduction of school fees and the private provision of schools. I argue that there has been insufficient attention paid to how policy advice is implemented, and that one of the weakest - if not the weakest - link in the chain of policy implementation is the relation between planning and budgeting, including how budgets are made. There has been a tendency to put broad educational policy objectives on the one hand and the economic planning and management of resources on the other into two separate compartments, so that while there is no shortage of analysis of what needs to be done, the means of achieving given objectives are often unspecified. This has led to unfortunate and self-defeating tensions between those who propose policies in international financing agencies and in governments, and those who must manage the implementation of these policies. As a result, most countries will experience considerable difficulty in implementing simultaneously the triple initiatives of expenditure reallocation, improved budget management and system expansion.

Most African public sector budgeting procedures and formats have not changed significantly since colonial times, and they cannot cope with translating short and medium term adjustment policies into practice. The second part of the paper is concerned with approaches to strengthening and/or reforming the planning and budgeting for education in African countries. These involve the full or partial replacement of annual incremental planning and budgeting systems with approaches which may be more appropriate to current problems. I suggest that many attempts to undertake necessary reforms have not succeeded because they have been limited to interventions in the education sector ministries without reference to government budgeting and administration systems as a whole. Reforms should also take full account of the need to strengthen a potentially beneficial relationship between the state and the private sector.

With these improvements better use can be made of external assistance which has, I argue, not always served those countries which benefit from it as well as it might have. The objective of the changes suggested in this paper is to enable countries to use their limited resources better and avoid stop-go educational development policies in order to achieve the capability of providing an education service which is both sustainable and affordable. In this respect governments have a crucial role to play in the process of change, even if in some aspects the 'market' will succeed where government planning has failed.

AFFORDING THE UNAFFORDABLE: PLANNING AND FINANCING SUSTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA

PART I: ISSUES

A. Introduction and Background

In many African countries, in spite of public expenditure restraint under various programmes of macroeconomic adjustment, there has been a steady increase in government expenditure on education. Although public expenditures on education expressed as shares of GDP have remained more or less constant, they have declined after debt costs are taken into account.[1] At the same time average public expenditures per student are declining in real terms or are stagnant at low absolute levels because of population growth and increased participation. This 'educational stagflation'[2] has long been recognised, as has the necessity of finding ways of using existing resources more efficiently and of augmenting total resources allocated to education derived both from tax revenues and 'private' contributions.[3] There is a considerable body of literature which sets out the appropriate policy targets,[4] but severe problems remain.

However, there has been insufficient attention paid to how policy advice is implemented, and one of the weakest - if not the weakest - link in the chain of implementation is the relation between planning and budgeting, including how budgets are made. Most African public sector budgeting procedures and formats have not changed significantly since colonial times, and they cannot cope with translating short and medium term adjustment policies into practice. Although the individual citizen's 'right' to education is now universally accepted, and although governments are obliged to respond to the 'social demand' of their populations for education, it cannot be denied that the provision of education services absorbs real resources which are limited at any given time and which can only achieve in most African countries a modest growth over time. There has been a tendency to put broad educational policy objectives on the one hand and the economic planning and management of resources on the other into two separate compartments, so that while there is no shortage of analysis of what needs to be done, the means of achieving given objectives are often unspecified. This has led to unfortunate and self-defeating tensions between those who propose policies in international financing agencies and in governments, and those who must manage the implementation of these policies.

This paper explores this problem and some of the solutions proposed to overcome it, with particular reference to Sub-Saharan Africa, although many of the observations and approaches are equally applicable to South Asian, Caribbean, and Latin American countries, as well as some of the former Soviet republics. It is essential that there be greater awareness of budgetary, fiscal and macroeconomic issues in the discussions of the critical shortage of finance in most African education systems. In this respect governments have a crucial role to play in the process of change even if in some aspects the 'market' will succeed where government planning has failed.[5]

The first part of this paper sets out briefly the basic issues, and discusses some current policy recommendations, including the introduction of school fees and the private provision of schools. The second part is concerned with approaches to strengthening and/or reforming planning and budgeting for education in African countries in order to provide a better base for the implementation of policies. These include the replacement of annual incremental planning and budgeting systems with approaches which may be more appropriate to current problems. I suggest that many attempts to undertake necessary reforms have not succeeded because they have been limited to interventions in the education sector ministries without reference to government budgeting and administration systems as a whole. Reforms should also take full account of the need to strengthen a potentially beneficial relationship between the state and the private sector. With these improvements better use can be made of external assistance which has, I argue, not always served those countries which benefit as well as it might have. The objective of the suggested changes is to enable countries to use their limited resources better and avoid stop-go educational development policies in order to achieve the capability of providing education which is both sustainable and affordable.

There are a number of factors which influence the planning and financing of sustainable education systems, and they include-,

(a) demographic factors
(b) national economic performance, including the structure of the economy, degree of industrialisation and rural/urban economic activity, unemployment, the distribution of income, etc
(c) external assistance and levels of external debt
(d) patterns of previous provision and 'social demand'
(e) external advisers and external 'models'

(a) Demographic Factors

The growth of population in most African countries has resulted in an accelerating demand for basic education, and, as a natural consequence, for higher levels of education. In general this growing demand has exceeded the rate of growth of resources available to satisfy it. Although the ratio of the 0-14 age groups to the 15-64 age groups in low income countries is predicted to fall (from an average of about 40-50 per cent in 1989 to 30 to 40 per cent by 2025), implying an increase in the size of the population of working age, the ratio of taxpayers to non-taxpayers is likely to remain much lower than that found in developed countries for some time to come, while the structures

of the growing education services in less developed countries which are mainly financed out of tax revenues are arguably comparable to those of the more developed countries. At the same time the rate of urbanisation will effect the delivery of education because of the different characteristics of urban schools.

(b) National Economies

The level of industrialisation in different countries is an important aspect of the nature of the relationship between education and training systems and the employment markets. In this sense 'levels' of industrialisation refer to a continuum with pre-industrial countries (Africa, South Asia) at one end, moving through light and heavy industry to high technology industry at the other end. For example, countries such as Korea with high and growing quality control in industry require a very different approach and education content from countries with negligible industry and little drive for quality control. Countries dominated by low skilled rural employment differ from those with high skilled urban employment. Countries where school and university leavers are likely to be employed within a reasonable time after graduation have very different relations between education systems and labour markets from those with high rates of unemployment. At all levels of development trainability is a prized factor among employers, but in more industrialised countries basic school education and trainability are extremely important: without these attributes new entrants to the labour force can quickly become marginalised.[6] In pre-industrial countries marginalisation may take place irrespective of education and training simply because of insufficient employment opportunities in relation to the number of qualified applicants.

The issue of job creation is crucial. Increased public investment in the expansion of education systems may mean less resources devoted to job creation: the Pacific rim countries have demonstrated the strong potential role of governments in this area.[7] Expansion of education in economies with restricted employment opportunities may not always be the most appropriate use of government resources.[8] Industrial growth in Africa will be limited, and while formal education will play a direct part in this growth, it will be also significant in terms of indirect influences such as on the redistribution of income,[9] and as a base for specialised training. Although some[10] insist that the state should not play a direct part in providing finance for training, experience from Asian countries suggests that there is a case for the state doing so.[11]

(c) External Assistance and Public Debt

Countries in Africa, South Asia, the Caribbean and Latin America which have recently experienced a decline in their economies suffer from falling or stagnant tax revenues, and therefore from a decreasing ability to provide additional public domestic finance for growing public services.[12] In order to support the increased claims on public spending, in some countries foreign aid has assumed such significant proportions that education systems are largely supported by it.[13] The data conceal the volumes of external aid supporting education systems, which may be proportionally larger than in other sectors, and also conceal the varying applications of aid within different parts of education systems.

Donors have put considerable pressure on African countries to accept financial and technical assistance to develop their education systems.[14] Yet the relation between external funding and domestic capacity to pick up the resultant capital repayment and interest costs as well as the associated recurrent and capital replacement costs has consistently been ignored, or if not ignored, it has been assumed that economic growth will take care of the problem. There have been many attempts to quantify the finance gaps, from the millions of dollars needed in the 1960s to reach 'take-off' to the UNICEF attempt to show how much is needed to provide basic education for all.[15]

In principle, the argument runs, the combination of the extension of education provision and other externally financed investments will accelerate growth and development and also fulfill basic requirements and entitlements, justified on moral grounds. However, whatever the longer term effects, the expansion of education systems has demanded a rapidly growing share of fiscal resources while tax revenues cannot keep pace with the increased demands. The resultant decline in the quality of public provision has meant that it is no longer possible to take indices such as examination results and enrolment rates as indicators of returns to this public investment. For example, a common structure of an education system is a primary-secondary-tertiary cycle which may cover 15 years altogether. If a six year primary education cycle is characterised by illiterate school leavers it must be concluded that there is something inappropriate about such a system. If schools lack books, equipment and decent buildings and furniture, the reasons for their very existence is in question.

Encouraged by the Jomtien conference, most of the current literature which considers education finance appears to start from the premise that schooling for all (SFA) by the year 2000 is an axiomatic objective.[16] There are parallels with the commitment to Universal Primary Education (UPE), which was promoted often with little real regard for resource requirements. The global objectives are endorsed by governments, which are encouraged to aim for them and are promised external finance to support their aims. Governments themselves seem to have had little real confidence that they could make sufficient resources available. There should by now be sufficient experience to realise that these targets are not attainable, and, more importantly, that trying to attain them through heavy doses of foreign aid leaves major problems of sustainability.

The amount of public finance available for spending on education has been severely affected by the volume of the interest costs of government debt which have first claim on fiscal revenues. However, over the period of adjustment in many countries the volume of government expenditure has risen slowly in real terms. Social sector spending has also risen,[17] but because of the requirement on governments to service debts the rate of increase of public expenditure is limited.

The significance of the combined influences on education of the growth and distribution of population, recession, and rising interest payments, has not only reduced the extent to which tax derived public expenditures can support the growing demand for services: they have also affected the availability of private finance, that is, the total resources available. On the government side, the debt burden combined with population growth has rendered many governments' attempts to cope with the social sectors a Sisyphean task. One of the difficulties which face policy makers and sectoral aid donors in Africa in the near term is how to judge the debt problem: much foreign aid would be unnecessary were debt to be cancelled because it would allow more domestic finance to be reallocated for education.[18] On the private side, as public sector provision, which is a function of economic capacity, declines, households are forced to contribute more of their own resources through fees and other types of tax, though in many cases there may be very little surplus in the household budgets.

(d) Advisers and External 'Models'

Educators from developed countries have generally not accepted that education systems may develop through 'stages', and that these 'stages' reflect the capacity of a country to provide a reasonable quality of education to its citizens within its resource constraints.[19] A aucial factor in many countries has been the role of foreign advisers whose advice has been supported by large sums of foreign aid.[20] Their influence has been compounded by the demonstration effects of the education systems of developed countries: these systems evolved over many years largely on the basis of their close relationship to employment markets. Countries which are 'late developers' have imported wholesale foreign techniques and institutions, including examination systems which have become the main linkage between schooling and restricted employment markets, dominating both.[21] Although there were many who were well aware of the growing tendency of foreign aid to promote the 'western' norms of the quantitative evaluation and assessment of extrinsic educational characteristics,[22] there has over the years been a tendency to promote the expansion of education systems by making them more complex and 'modern' without concomitant attention to assessment reform. This is analogous to the heavy promotion of better seed varieties and husbandry practices for peasant farmers while ignoring the issues of crop pricing and marketing.

(e) Patterns of Previous Provision

One of the main constraints on reform policy is the expectations and aspirations generated by the provision of education and training in the recent past. The determinants of this provision are complex and include cultural and social, as well as political and economic, factors. This paper does not explore this aspect in detail, partly because of its complexity, and partly because there are significant variations between countries. A principal manifestation of popular aspirations to education is in the sensitivity of political authorities to current 'social demand' and the resulting reluctance of governments to take difficult decisions on the basis of the long view rather than of short-term concems. There are wide differences in pattems of previous provision between countries. Some have had large university sectors (at least in terms of their budget shares), while others chose not to develop post-primary education. Attitudes to girls' education vary between countries, as do local communities' attitudes to participation in schools. The status of teachers also varies. Some countries have over the years developed strong elements of private provision. In response to 'social demand', existing government budgeting and planning further consolidate short term incremental planning, reflecting a seemingly inexorable and immutable progress on the basis of past trends and views. The changes that need to be made are in many cases so large that it can be difficult to see where to start and how they can be implemented. Major differences between countries in this respect dilute the value of 'global' prescriptions.

I have, in this introduction, sought to suggest that there is little reason to assume optimistically that the approaches of the last two decades will be appropriate for the next decade, a position which is directly contrasted to that of the Jomtien conference and the view that resources will be made available through the combination of efficiency measures and foreign aid in a period of growth in the nineties. The 1990s are now a third completed, and there is little evidence that the necessary steps are being taken quickly enough, if at all. The cumulative effect of the factors summarised in this section is to force the conclusion that the environment for education development in many countries is hostile to progress, and likely to remain so.

The main differences between education policies which were most widely advocated in the 1970s and the first half of the 80s, and those now widely proposed by international agencies and others, arguably relate to the- role of the 'market'. Much of the literature on reform is based on assumptions about 'the market', and on how reducing the role of government can create competition and therefore efficiency. Cost recovery and privatisation are often regarded not only as means of augmenting resources, but also as sufficient conditions for greater efficiency. There is at the same time a general acceptance of the desirability of Schooling for All (SFA), just as there was of Universal

Primary Education, and SFA is widely enshrined in public education plans. These are essentially and inevitably long temm objectives and do not address the problems which we currently face

This paper tries to steer a way between the Scylla of the market and the Charybdis of Jomtien. I express scepticism both about market solutions and about the feasibility of significant expansion of education systems, at least in their present forms. While the Jomtien objectives are desirable in principle, the first step must be to do what we can to ensure that governments are capable of managing the reforms in many African countries. This in itself will take up the rest of this decade.

B. Resources, Costs and Data

It is important to distinguish between educational expenditures and educational costs, and to relate them both to a given product. Analysis of education systems can be misleading because of the failure to make these distinctions. This is exacerbated by the inadequacies of data. In that policy prescriptions can have wide-ranging effects, it is most important that they are made on as full an information base as possible. The purpose of this section is to define briefly the appropriate terms for subsequent analysis.

(a) Education Expenditures

Budgeted and Actual Expenditures. Expenditures are actual money outlays. It is necessary for the analyst to distinguish between budgeted expenditure on the one hand and actual expenditure on the other: actual expenditures include household and other non-government expenditures. A common error in education finance analysis is the assumption that budgeted expenditures equate to actual expenditures. This is partly because the standards of public accounting in many countries are very poor, and only budgeted expenditures are available in the public domain. Publication of actual expenditures, which are often incomplete, is usually at least two years after the end of the fiscal year,[23] and budget estimate books commonly have three types of analysis: actual expenditure (present minus two years), revised budget estimates (last year) and budget estimates for the current year. In that the expenditures can be as much as 30 per cent over or under the estimates, the use of budget data as a proxy for expenditure is particularly misleading.

Total Expenditure Estimates. Another common feature of education analysis is the presentation of tables showing 'total expenditure on education', which normally, of course, show only total government (often budgeted) expenditure, sometimes of the Ministry of Education only. Firstly, household expenditure is a major component of total expenditure: at the primary level, for example, household direct expenditure on education can equal and indeed surpass government expenditures. Secondly, most education budget estimates fail to include the interest costs of capital and project expenditures, whether financed by loans, grants, or 'own' funds. Thirdly, in many countries external assistance, which may not be included in the government budget, can substantially increase total expenditures. Fourthly, it is well known that public expenditures on education and (more so) on training are made in many other ministerial sectors apart from education. These omissions or inaccuracies can result in substantial underestimates of actual expenditures.

(b) Education Costs

While costs to the economist are a measure of what has to be given up to achieve something, to the accountant they are money outlays (except for depreciation). Economic costs are made up of direct and indirect costs. Direct costs are usually money expenditures. Where average, or unit, direct costs are analysed, they often refer only to public expenditure divided by the appropriate unit, usually enrolments, at a given point in time for a given level of educational provision. The total direct costs of education exceed the levels of expenditure by governments, and the excess is borne by households and firms. To define the direct costs it is necessary to specify at the same time what is actually being purchased

The difference between the actual expenditures and the (estimated) direct costs of providing a reasonable quality and quantity of education is the level of underfunding.[24] For example, the costs of production of books can be more or less estimated, a 'reasonable' level of teachers' salaries can be proposed based on various measures and indices, building costs are usually known within, say, a 20 per cent variation for any given design, and the maintenance of pupils, teachers, materials, equipment and buildings can be estimated within an acceptable level of tolerance. If we then buy what we understand as 'education' but in fact receive something different, we have purchased a different product, and its costs are not those of 'education'. If we say that we are buying 'education' we expect that what we are buying will serve its intended purpose. In this sense education expenditures do not equate to education costs in this particular time period.

Total cost, however, is a wider concept, and includes the costs to society as a whole, usually termed 'social costs'.[25] The measurement of what has to be given up to purchase education is complex. The most widely analysed indirect cost is the 'opportunity cost' to individuals and households, that is, the alternative uses to which they could have put the resources had they not invested them in education. Less widely analysed are the opportunity costs of government expenditure and of external assistance. External assistance can promote inefficiency, as in the case, for example, of 'tied aid', where recipient governments are obliged to purchase goods and services from the 'donor' country even though these goods and services might be more expensive than suitable alternatives available from other sources. Another social cost which is little

analysed is the cost of tax finance. Raising and administering taxes require expensive bureaucracies. In most countries tax systems discriminate against the poorer sections of the population, or they encourage the inefficient use of resources. Finance raised through such systems has significant social costs. While we are mainly concerned with government expenditures and the planning of the education sector, it is necessary to bear in mind the nature and scope of costs of provision of education, as we will see later.

(c) Data

The education system analyst requires three categories of basic data, 'physical' data relating to enrolments and other quantities, financial data relating to costs and expenditures, and economic data relating to the economy as a whole. Interpretative data are derived from these basic data, such as enrolment rates, average expenditures and other ratios

National Income Accounting. At the apex of the data structure national income accounts are frequently drawn upon for policy prescriptive purposes. The unreliability of national accounts is well known, but despite this they continue to be widely used, for example, in comparing government education expenditure as a ratio of GDP between countries, and in advocating that expenditure on education reach a given level, say 5 per cent, of GDP. In these cases the numerators and the denominators of the ratios are so unreliable that the resulting ratios are of little use, especially for comparative purposes.[26]

Public Budgets. The next commonly used aggregate financial interpretative data are educational expenditures expressed as proportions of public expenditure. The most frequent failure in considering these data is the need to distinguish between discretionary and non-discretionary expenditure. Interest payments on government debt are a priority obligation in government expenditure. Sectoral budgeted expenditures are therefore secondary claims, and government has discretion on allocation. Total discretionary budgeted expenditure is therefore total budgeted expenditure after provision for local and foreign government debt repayments is made.[27] Many analysts cite ratios which use total budgeted expenditure as the denominator, and it is not always clear from published statistics whether debt obigations are included or not in the total recurrent budget estimates. Some countries have been expected by international institutions to raise sectoral shares because of confusion of discretionary and total expenditures. If the 'gross' ratio of education expenditure to total recurrent expenditure (including debt repayment) falls over time it is difficult to determine whether the fall is because of increased debt repayments or because government policy is to reduce expenditure on education. The debt issue cannot be overemphasised, and is discussed further below in relation to capital budgeting and foreign aid.

The next key issue is the composition of education budgets. Different countries include different items, and Ministry of Education budgets do not include all budgeted expenditures on education in many countries, particularly those in which education management responsibilities are devolved on local government or federal state ministries. It is often difficult to determine the total public budgeted expenditure on education because of the variety of data sources that must be consulted.[28] Published and easily available data within countries rarely provide information on education finance which is useable for detailed analysis. Few government Statistical Abstracts and Digests include budgetary data.

Capital Budgets. A major data weakness is capital budgets, which are often very misleading since many contain recurrent elements and omit foreign grant and loan contributions. The servicing of foreign loans is to be found in a consolidated budget, and does not form part of sectoral budgets, although there is a case for them to be recorded there. Capital budgeting is discussed later (page 22).

Educational Cost Benefit Analysis. A final point should be made about rate of return analysis. The use of internal rates of return to education has been vigorously promoted over the last fifteen years, and has had a great influence on education policy, although the reported historic 'high' rates of return have not been reflected in many cases in overall national economic performance. The technique has many serious flaws, most of them being well known (such as its inability to take quality into account[29], and the equation of differences in earnings with the effects of education on productivity), some less so (such as the true extent of costs and benefits, including social costs and benefits[30], and externalities[31]). Internal rate of return to 'education' calculations are without doubt subject to serious upward and downward bias (which may not, contrary to the suggestions of some writers, cancel out), yet the findings, surprisingly calculated to a single decimal point, are invariably used to justify the emphasis of public investment on primary education. The use of cost benefit analysis for education policy making is not the subject of this paper, but it has had important effects on education planning and budgeting. In reality, it takes many years to redirect public expenditure from one level of the education system to another, during which time relative internal rates of return may alter between levels for several reasons, including their dependence on average wages of school leavers which may change rapidly in a short time.[32] As such a redirection may imply the introduction of fees and private education, of which there is little experience in many countries, there are major political and social issues at stake. While cost-benefit analysis in principle provides important policy data, in practice the potential for significant error suggests that evidence of internal rates of return to schooling should be used with circumspection, if at all, particularly in countries with low school quality.

C. Alternative Sources of Education Finance

Although it is by now universally recognised that public education systems in most African, South Asian, Caribbean and Latin American countries are severely underfunded in relation to what they are trying to achieve, the mechanisms for improving efficiency are not in place. Progress can only be made if planning and budgeting are improved, and this cannot happen while ancient and inappropriate government financial and planning approaches and systems remain. In general, governments must follow one or both of two types of policy to improve the quality and level of provision of education. On the one hand existing resources must be used more efficiently, and on the other resources must be augmented. A necessary condition for both must be the development of realistic budget and expenditure control systems for all government expenditures which work hand in hand with better planning.

The necessity of a public subsidy to education is justified by the presence of constraints on private credit (individuals often cannot borrow to finance education); imperfections in the availability of information (parents may systematically underestimate the value of education because of lack of infommation); externalities (such as the apparent relation between length of primary schooling and reduced fertility rates); and the public good aspect of education. Public goods are goods which, because they cannot be withheld from one individual without withholding them from all, must be supplied communally. Access to basic education might qualify as a public good. The presence of any of these conditions indicates 'market failure', and as they are all to a greater or lesser degree applicable to education, subsidies to the provision of education services can be justified on economic grounds. At the same time, funds for education, whether from tax or non-tax sources, are not infinite, and will always be rationed. The case for providing a fully subsidised service is thus undermined by the inability of net fiscal sources (ie taking also into account direct and social costs incurred in providing subsidies out of taxation) to satisfy the social optimum, taking into full account the various external benefits to education. Even were sufficient funds to be available to support a fully subsidised system, bureauaatic inefficiency in unaccountable education services leading to 'government failure,'[13] would have to be taken into account. A balanced approach is therefore needed.

Efficiency. Much of the literature considers the option of reducing unit costs.[14] But improvements in efficiency can take place, with or without reductions in unit costs. If we use the average cost per student as a measure of efficiency, then clearly costs may be reduced by reducing the quality of the product. It is difficult to see how average costs can be reduced in many African countries without further deterioration in the system. Some components of average expenditures should be reduced, but should result in transfers to other components in order to *increase* average expenditures per pupil or teacher. This is contrary to the view of those who believe that the greater role of the market permits governments to save money.[15] The problem for the public sector is to raise average expenditures within the constraint of existing total public expenditures: and for the education system as a whole, total and average expenditures must be increased within the constraint of *net additional* private resources.

Embedded in the proposition that unit costs can be reduced is the inescapable need for the scope and volume of publicly financed activities to be reduced. 'Efficiency' measures will yield some transferable funds in the form of available cash. This is important. For example, many education projects have had as their stated aim the increase in pupil-teacher ratios in order to reduce the total number of teachers, the resulting 'savings' then to be applied to other parts of the sector. In reality, under the usual budgeting systems, what savings that are made are rarely identifiably transferred in the form of extra cash for, say, books. They are translated into a reduced rate of growth of the education budget: increments on non-salary charges are held at the 'normal' rate. In the context of extreme underfunding it is not clear how significant such transfers will be. Sources of additional funding will tend to be found outside the nommal tax system in the foreseeable future.

The 'liberalisation' of the education market, the encouragement of private schools and the formalisation of cost-recovery schemes are expected to go a long way to bridge the finance gap. Most countries expect a growing proportion of total expenditure on education to come from non-fiscal sources. The main point to be made at the policy level is how far user fees can and should augment, and how far substitute for, public resources, assuming, of course, no deterioration in the quality of the product. There is relatively little evidence on which to base confident predictions of the extent to which expenditures on education can be increased through allowing a market in education service provision to develop. The development of such a 'market' would be through (a) the introduction and expansion of 'user fees'; (b) the expansion of the private education sector; and (c) the greater use of non-government sources of specific goods and services.

(a) User Fees and 'Cost-Sharing'

It seems to be widely accepted that subsidies should be focused on primary education, and that the higher up the system the lower the subsidy should be.[16] However, because of higher costs, the ratio of subsidy to private contribution generally increases the higher up the education pyramid a student climbs.[17] Whereas direct parental contributions finance up to half or in some cases even more of the total expenditure at the primary level, this share falls rapidly at the public secondary level. At the university level direct and indirect parental contribution as a proportion of total expenditure is often very slight. In order to reduce the burden

of subsidy at higher levels many countries have introduced compulsory fees for secondary and tertiary education.[58]

User fees may replace government subsidies to education, they may augment them, or they may partly replace and partly augment at the same time. Most proponents of fees assume that fees should and will augment total expenditures. In general it seems that the approach proposed by Thobani[59], which has influenced the thinking of international agencies involved in education, is most widely accepted: fees should be increased so long as there is 'excess demand' for the service. As I have noted, however, deterioration in the education system changes the product and 'excess demand' has little meaning. Excess effective private demand for 'education' as a service which will clearly benefit its 'users' by enabling them to learn will not be observed because of this. In a number of African and South Asian countries parents are withdrawing their children from school because of poor quality and because they do not consider schooling relevant to their needs.

Clearly, where there is substantial underfunding combined with deteriorating quality, gains from increased user fees may generate resources for expansion and quality improvement, and add significantly to total resources expended on education. However, it is not at all evident that sufficient attention is given to substitution effects. If household budget ceilings are fixed, the requirement to pay fees could well mean that money which had previously been spent on children and schools (for example, on books and construction), would be switched to fee payments, and parents would expect a greater level of public provision to provide what they themselves had previously provided. This means that no augmentation of total expenditure on education would take place. Similarly, little is known about the opportunity costs of fees paid by the 'rich' for higher education, though much is written about the need to lower taxes to promote investment by the 'rich'.

It is thus necessary to distinguish between compulsory fees and voluntary contributions, and to understand the degree of substitutability between them. Where compulsory fees are concerned, a distinction must be made between fees collected by the school and used in the school, and those collected and administered centrally. Compulsory fees are in effect 'earmarked' taxation, that is, taxes collected for a specific purpose,[60] where they are for compulsory education. As I have noted, taxation has its own associated costs, and therefore the result of charging fees which cause households to transfer expenditure from direct voluntary contributions to compulsory fees could result in a net decrease in education expenditure due to the costs of fee collection and administration.

In addition, many fee proposals may not have sufficiently considered the effect on households of the combination of user charges and the tax system. The collection of fees and non-fee contributions for compulsory education outside the tax system, either through coercion or through deliberate starvation of subsidies forcing up private contributions, can increase the regressive nature of the tax system.[61]

Two broad justifications are commonly advanced for 'cost-sharing' policies. The first is that governments have insufficient revenue expenditure to finance education services fully; and the second is that a decreased reliance on 'government' revenues will promote competition and therefore efficiency. In so far as 'cost-sharing' in education has any meaning at all it refers to the sources of finance for education. Sources may be discretionary or non-discretionary for both household and government budgets. Both governments and households have limitations on what resources they can budget for any given activity. For individuals and households there are three types of 'cost-sharing': (a) voluntary contributions; (b) obligatory charges which do not go into government revenues but are retained, for example, at the school; and (c) obligatory charges which go into government revenues. Voluntary contributions may be correctly considered as cost-sharing while obligatory charges must be considered as taxes. However, where government allows for a certain level of 'voluntary' contribution by deliberately reducing subsidies, even voluntary contributions become obligatory.

The basic question is what affects the relative levels of voluntary and obligatory expenditures. Taxes and compulsory fees paid by individuals are obligatory (non-discretionary) they must be paid - and hence there is no essential distinction to be made between them. Where fees are used directly for a specifically identified purpose, unlike most taxes which go into a common pot, they may be considered as earmarked, but they are nevertheless obligatory. 'Cost-sharing' does not therefore signify a division of financing responsibility: revenues still derive from citizens. Rather it signifies a redistribution of financing shares.

The basic relation between public expenditures on education on the one hand and direct payments households may make apart from their normal tax obligations on the other is that the *payments that households make are generally residual*, that is, after public subsidies are taken into account citizens are asked to make up any shortfalls. There is therefore a clear relationship between public sector efficiency and the level of 'private' contribution: parents may be required to pay more to support government or private sector inefficiency. How can I, as a parent, influence the *costs* of the education which I am *obliged* to cover, directly or indirectly, whether for public or private education, if I want my children to be educated? Can I say 'reduce the number of subjects so at least some are well-resourced'; or 'in our school we can't afford all the teachers we are allocated'; or 'change the school year and modify the examination system to fit into the fishing calendar so my children can help in the fishing season'? I can't, of course. The whole construct of the

'market' is that it creates competition and choice, but it is obvious to nearly every parent, particularly those without much money, that in reality there is not much choice, and hardly any at all where the determinants of the costs of education are concerned.

There is a major need for research into the relation between the costs of schooling and how people can pay them. At the household level expenditures may be made from current income, from borrowing, and from sales of assets. Nearly all surveys of household expenditure assume expenditures to be from current income. But if the sum total of current income is insufficient to cover household expenditures, whence comes the income to make up the difference? It must come from debt or from sales of assets. If it comes from other members of the extended family it may come from current income, or from debt, or from sales, but in aggregate the total incomes and expenditures must balance.

Assets such as cows or taxis earn income. It may make sense to sell them if they finance higher yielding assets, rather than if they finance consumption. If households sell assets to finance education, assuming education to be investment and not consumption (many, if not most, surveys treat education expenditure as consumption expenditure), it is, in effect, a switch of investments out of cows or taxis into human capital. Thus, where individuals are required to purchase education, it is necessary to understand the sources of finance used for the purchase. If I believe my children will earn more from having attended school, the additional future earnings might enable me to buy two cows or two taxis, and my short-term hardship might be justified. If in fact they do not earn sufficient to have made my sacrifice worth while, I have made a serious loss. Moreover, society has also made a loss.

In the past budget deficits were financed by government borrowing and foreign aid. In principle there is nothing wrong with a deficit as long as people are willing to finance them. As governments are no longer able and/or willing to finance deficits, households and firms are being asked to do so. If individuals wish to receive education and an academic certificate they will have little choice but to pay increasing levels of fees, *regardless of the efficiency of government provision*. This is the logic of the Thobani 'rule'.

As I have mentioned, the argument is that at the primary level parental contributions should in general augment public resources, while progressively at the higher levels they may to some degree substitute for public resources, but in order to redirect the resources to basic education. In reality, this is hard to achieve. Higher government expenditure on primary education might, for example, enable poor households to release money used to finance education for other equally important uses. Furthermore, in countries where equity considerations are important in policy making, it is possible that focused subsidies such as scholarships will reduce net revenues from fees, as the costs of subsidies are balanced against the extra revenue from fees.[42] Where fees substitute for public finance, it is assumed that the public finance thus released will be returned to the education sector in other areas. This, as I have noted, is one of the basic justifications underlying fee proposals such as those found in the cited World Bank literature,[43] but it is by no means clear from this literature that it actually happens. I suggest that it is unlikely to happen in the absence of appropriate planning and reformed budgeting systems.

(b) Private Educational Provision

Much of Africa's 'modern' education system up to independence was private in the sense that it was run by missionaries. The secularisation of education and the perceived need for nation-building, as well as in some cases political activities of churches, led to an almost total take-over of educational institutions by governments. Missionary schools were not profit-making, but aimed for self-sufficiency, depending on local and foreign contributions.

The reasons for encouraging the development of private schools in less developed countries generally lie with the inability of governments to provide sufficient student places from tax finance. Like fees, it is a way of capturing more private finance outside the tax system. This is deemed to be more efficient in the sense that it avoids the costly public bureaucracy necessary to administer the public system. However, it is necessary to take into account the costs of regulation.[44] At the same time private schools, particularly in that they operate for the most part within education systems in Africa which are geared to getting pupils through examinations, may, if left sufficient flexibility, serve as centres of innovation, even to the point of shortening the length of the primary or secondary school cycle with no loss of examination success. The European experience, particularly in Scandinavian countries, provides interesting examples of this phenomenon.

There is an important distinction to be made between profit-making and non-profit private schools. In the case of private profit-making schools there is no reason to suppose an equally proportional relationship between rises in household spending on schooling and total expenditure on education because of the profit which school owners take out. It is thus by no means axiomatic that the replacement of public schools by private schools will result in an equal augmentation of resources, particularly when regulation costs are taken into account.[45]

The privatisation of education may not necessarily favour the better off by the creation of elite private schools access to which is restricted by price, as is often believed. There may be significant incentives to compete for subsidised school places, which are allocated on entry requirements which include academic performance as measured by examinations. Examinations have distorted education systems and equated exami-

nation passes with education. To the extent that there is a relation between examination success and relative social advantage, examinations become a rationing device for future study, and favour the better off in their search for publicly subsidised school places. More importantly, whatever the economic status of students, those with lower academic achievement, which is not the same as saying those with less academic ability, may have less access to good schools.[46]

There is undoubtedly an important role to be played by private schools in African countries. How important remains to be seen. Private schooling should not be seen as a panacea, and its potential as a future demand on government obligations under multi-part systems must be borne in mind: where private schools may suffer financial problems there may be strong calls for government help.[47] Private systems are often subsidised directly or indirectly, and may account for a proportionately larger percentage of total expenditure than of total enrolments. Indeed, the real issue is how subsidies to 'private' schools are operated, as in most countries they operate through the tax system or directly though grants. In many ways it is unhelpful to be constrained by the term 'private', and perhaps we should consider the issue more in terms of diverse forms of state funding. To realise the possibilities that exist significant changes would be required in how government budgets for education are made up and regulated.

(c) Altemative Provision of Goods and Services

Many countries have now contracted the publishing of school books to private sector publishers, and are contracting teachers and others to work on curriculum development, in contrast to previous reliance on Ministry of Education units to do this work. There has been less experimentation in some of the other parts of the education service, particularly in high cost areas such as the training of teachers. As teachers make up the single greatest cost component of primary and secondary education, and, at the same time, in nearly all countries perceive themselves to be underpaid and working in poor environments, a prime concern must be to improve their conditions. To achieve this they must (a) have more capital to work with (better buildings, books and equipment, etc); and (b) in most countries have improved salaries. Yet because teachers are in most cases only supplied by government which is constrained by public expenditure ceilings, neither of these improvements are likely to be achievable in most Sub-Saharan African countries in the near future.

In addition, the cost of teachers to schools is fixed by centrally determined norms, expressed both in salary scales and levels of qualification. In many countries the problems of poor quality in schools are also found in teacher training institutions, and the professional capability of teachers suffers. Put another way, although teachers may possess appropriate paper qualifications attesting to years of training, they are not axiomatically well-trained teachers. This would explain to a large degree the findings of researchers which suggest that the level of training of teachers may not be significantly associated with pupil performance in many countries, particularly in primary schools.[48]

Any discussion of education fees and private schooling in Africa is likely to end indeterminately as most countries have little experience of the complex interaction between household and government expenditures and the quality of educational provision. The relevance of the issue to public budgeting is the need for planners to determine the amount of private finance available to supplement government finance at all levels, and to determine the effects of the distribution of subsidies on the availability of education to all income groups. The foregoing brief discussion of approaches to augmenting the resources which are available to support the development of educational systems highlights the problems facing planners in the implementation of the proposed 'new priorities'. While several key policy targets are proposed, they are often based upon assumptions that have not yet been tested and which have a number of practical difficulties attached to them. Countries should not accept such policy advice without giving careful thought to how it should be initiated and tested. This involves setting place the appropriate mechanisms to allow them to do so effectively.

PART II: APPROACHES TO REFORM

A. Issues in Planning and Budget Reforrn

The approaches discussed in this part of the paper arise directly out of the analysis of issues in Part I. They are concerned primarily with the question of how to achieve sustainable reform of education systems through better use of domestic resources combined with focused applications of foreign aid. I argue that a key reason for the whole or partial failure of many initiatives, whether they be related to financing education, to the introduction of curriculum reforms, to the improvement of teacher quality, or to the introduction of greater participation of communities in schooling, to name four common reform targets, has been the neglect of budgeting processes. This neglect has now become critical because of the inability of most budget systems to cope adequately with contraction.

The problems addressed in this paper are not new, as I have noted. It has long been recognised that available resources have been spread more and more thinly over more students at the expense of quality and effectiveness. In spite of this, answers to how plans and resources should be related have rarely been addressed in technical detail. While, for example, the first *IIEP Fundamentals of Education Planning* monograph published in 1970[49] specifically proposed reforms to budgeting and related techniques, training courses and technical literature did not take these proposals forward. Part of the reason was that during the

1970s economic and political conditions were such that in many countries, supported by foreign aid, there was little perceived need to make the necessary changes. In anglophone ex-colonies the same budget systems as were implanted in colonial times are still in use.

The Educational Budget. The budget is the most significant influence on sectoral planning and management, and is the most comprehensive policy document issued by Government. That budgeting needs to be improved is generally recognised in the aid literature, although there appears to have been little academic interest expressed in the subject in professional journals, but less well understood are the difficulties in altering significantly the structure of planning and budgeting in one sector only. It is necessary to take into account the changes needed in the entire system of which the education sector is a part. Otherwise fundamental incompatibilities will exist between sectoral and Treasury formats. The result of the failure to change the structures of planning and budgeting has meant that exhortations to achieve greater efficiency cannot be effectively translated into practice.

Furthermore, discussions of planning and budgeting cannot concentrate solely on recurrent budgeting alone, as has so often been the case. Capital budgets, in some countries replaced by 'development'[50] budgets, is a crucial aspect of the planning process, as is the need to account effectively for the use of foreign aid. In some countries foreign aid represents a significant proportion of total government education expenditure in itself, while in others the volume may be low relative to total spending although its influence on policy may be significant. I outline below the different types of budgeting, followed by a consideration of the approaches to budgetary and planning reform which are, I suggest, necessary conditions for sectoral reform.

Types of Budgeting. Budget techniques and processes can be placed at different points on a continuum which ranges from incremental approaches at one end to programme and zero-based budgeting at the other. Incremental systems are used in public budgeting in most countries and take as their starting point the budget and sometimes the actual expenditure for the previous year. These systems tend to be departmental in their objectives. Rational[51] systems relate budgets to objectives and take into account wider objectives which cut across departments and institutions. The problem is therefore to combine the ideal with the practical.

(a) Incremental Budgeting Systems

Most current systems are in an incremental bid format based on line items in the budget categories. Separate ministries, departments and institutions prepare the next year's estimates in isolation from each other, adopting as their base point the current year's volume of services and expenditure levels. These estimates take the form of bids, as in an auction, and when they are aggregated they inevitably exceed the amount available to finance them. In an efficient bid system departments then adopt a systematic approach to reducing their bids. In most African countries teacher salary budgets are largely inviolate, and last minute reductions in non-salary budgets are imposed by Ministries of Finance, often with no consultation with the bidders. Control of sorts is exerted over salaries merely by allowing them to decline in real terms, although if total budgets also decline in real terms the proportion of salaries in the budgets remains constant.[52]

Disadvantages of Incremental Budgeting. This system suffers from many disadvantages:

(a) It cannot cope with reviews of the base budget, and consequently bidders are unlikely to propose reductions. The objective for each bidder is to maximise the bid, and the strongest available argument is the volume of the base year's expenditures, which consequently must be maintained even if they are unnecessary, in the case of underspent allocations.

(b) It encourages a fragmented, departmental approach, in which public departments which have common objectives bid against each other, even when their aims are related. This fragmentation in its extreme forms is manifested by different departments bidding against each other for exactly the same purpose.[53]

(c) It takes no account of objectives, but emphasises financial control of inputs. The bureaucratic imperative is to keep within budget, but no attempt is made to evaluate the effectiveness of the expenditure in achieving agreed goals. A continuing and idealised relationship between inputs and outcomes is assumed: as long as the money is spent the desired outcome is assumed to be achieved.

(d) It encourages a short term view. Budgets are annual exercises. Where capital budgeting is concerned there is no room for estimating incremental recurrent budget implications, and the planning horizon is short.

Advantages of Incremental Systems. The principal advantage of the incremental systems, and the reason for their robustness in the face of their deficiencies, is that they are readily amenable to the political process of negotiation.[54] The base is not challenged, and disputes can therefore be focused on the incremental proposals, which in the education sector can be conveniently divided between salary and non-salary expenditures, the former being politically more sensitive than the latter. Incremental budgeting encourages compromise and the mitigation of conflict. Sometimes the political process creates pressure for the increase of a line item precisely because of the fixed nature of the base: a common example of this is boarding costs for

secondary school pupils. The final decisions on the budget, whether from the Ministries of Finance or from political sources, are invariably removed from the budget managers, who may be among the last to be notified, and hence there is little room for conflict.

The political dimension cannot be ignored. The failure of many budget reforms had its roots in the resistance of political authorities to reviewing and cutting programmes which in some way would threaten their positions or even government stability.[55] The result has been, however, a progressive deterioration of education systems in times of financial stringency, as no means have been available to adapt services to available resources.

(b) 'Rational' Budgeting Systems

The combination of more or less fixed base budgets and concern with quantities of throughput rather than with quality and quantity of output must be characterised as an irrational combination for planning and budgeting purposes in the sense that the level and allocation of resources are not derived from a reasoned consideration of relative priorities. 'Rational' forms of budgeting require that the justification of each item of expenditure be related to a target output, itself related to an overall policy goal or set of goals for the education sector and for the economy as a whole.

Programme Budget Systems. At the other extreme from bid budgeting are Planning Programming Budgeting Systems (PPBS), referred to here generally as Programme Budgeting (PB).[56] Although budgets are, in principle, plans expressed in financial terms, in practice, particularly in government budgeting, their construction may become divorced from specific objectives and targets and become driven by other criteria. Programme Budgeting is basically an approach to the formulation of plans and budgets where attention is focused on objectives, and activities are grouped into 'programmes' each one of which is concerned with a single objective.[57] In a company this approach is an alternative to departmental budgeting where each department of the organisation makes a budget. Instead, planning and budgetary control may cut across departments where each department is concerned with a part of a programme. The application of the approach to government budgeting may or may not alter expenditure control mechanisms, but will affect how the budget is built up and how the activities on which the budget is based are monitored.

The mechanics of PB are broadly as follows:

(a) Establish sectoral policies with overall goals broken down into programmes with defined objectives, sub-objectives and activities;

(b) Analyse programmes in terms of

(i) identification and quantification of resources required to meet objectives

(ii) existing resource allocations

(iii) identification of alternative ways of achieving the objectives derived from needs analysis

(iv) comparative quantitative and qualitative evaluation of alternatives and their social and economic costs and benefits;

(c) Prepare budgets on the basis of the analysis, with narrative statements of output measures and justification;

(d) Feedback and review.

Zero-Based Budgeting. A form, which in some ways is less extreme and in others more, is Zero-Based Budgeting (ZBB), which requires that the total cost of every item included in a budget be justified and approved. No base or minimum expenditure for any activity or budget line is automatically acceptable. The approach forces an evaluation of all expenditures and their associated activities. ZBB seeks to expose functions and goals which may have exhausted their usefulness.

In its purest form PPBS is a limited technique because of its complexity. It was introduced into US and UK public budgeting[58] in the 1960s and 70s, but its attractions began to fade. There are practical problems in allocating activities to programmes and developing accounting systems that cut across departments. There is considerable potential for conflict as base budgets are regularly reviewed. Within government structures it is difficult to encourage multi-disciplinary approaches, particularly if it means a reduction in the volume of activity in a department in order to rationalise. Finally, there is a danger of policy instability and frequent major changes, often occurring because planners were wrong in their initial assumptions and forecasts. They became replaced by systems which retained elements of PB, with enhanced capability for regular value for money surveys of programmes and improved virement systems.

As with PPBS, ZBB is impractical as a standard system. It is not in general physically possible to subject programmes and activities to annual reviews of their base assumptions. It is, however, possible to establish *ad hoc* mechanisms for scrutinising the base, such as value for money studies. These, together with elements of PB, form the basis of a system of practical budgeting which is feasible in its aims and techniques, and flexible in its mechanisms. Education planners will readily recognise the features of the system: they are the basis of effective planning. It is possible to develop approaches to budgeting which take account of the strengths and limitations of each system and of political and bureaucratic realities. In brief, *the overall objective of any reform to budgeting must be to combine the planning function with the budgeting function*, and to subject financial alloca-

tions to proper scrutiny of the activities which they support. New budgeting and planning procedures must retain the virtues of the traditional systems while at the same time they must reduce its defects.

Advantages of Programme Budgeting. There are two key advantages of the programme approach to the budgeting of public resources. First, it demands by its very nature *participatory planning* and policy making from the bottom up, and it hence makes the allocation of public resources more democratic. This is important when resources are inadequate: public dissatisfaction can be minimised if there is a broad consensus on their disposition, and enhanced transparency creates a better atmosphere for the introduction of cost-sharing. Secondly, plans can be monitored, and budget control ceases to be limited to ensuring that financial ceilings are not breached. It provides a means of short term monitoring of targets which can only be achieved if the resources allocated to them are realistic in the first place. In other words, plans are directly related to available resources.

Effective budgeting depends on good estimates of what resources are available. Under incremental budgeting, even if budget ceilings are given in advance, institutions within the system still benefit from trying to bargain higher shares, with the main arguments revolving around their previous allocations. The reduction of the volume of activities to be supported by the budget is rarely an option. Institutional planners may build up their budget bids on, for example, numbers of pupil places, books required, etc, but these bids are rarely derived from a conscious *prioritisation* of activities, but rather from maintaining or improving the *status quo*.

It is unlikely that a system which is based only on incremental budgeting can effectively incorporate a process of ranking activities in order of priority and costing them. This is made more difficult by the need to effect changes over periods of more than one year. For example, teachers' salaries have over the years in many countries become treated as fixed costs, and all other charges to the budgets are residual, yet everyone recognises the absurdity of employing people who cannot do their work because of inadequate facilities and equipment and who are inadequately paid. Education systems are major employers, and this makes restructuring difficult because of the human implications of reductions in the total system: it is difficult to plan a way out of the problem in the absence of immediately available and substantial additional resources.

Financial Planning Systems. In order to overcome this problem, systems which may be described as 'financial planning' or 'volume planning' systems are increasingly employed. These are concerned with longer planning horizons, usually of three years, and are characterised by the advance provision of expenditure guidelines, joint capital and recurrent budgets and a more relevant budget specification and classification than the line item budgets described above. However, their focus is still primarily incremental and they do not involve *a priori* justification of the base budget. The emphasis is still a departmental one, and the same criticisms relating to the measurement of outcomes may apply. However, when considered on a rolling basis with programme budgets, they become powerful tools for medium term planning.

B. Implementing Improved Systems

The main problem which in many cases seems almost insuperable without major political commitment is that rational budgeting techniques in education sectors cannot be introduced effectively without reforming total budget systems, across all sectors. The approach to realising reform is described below, and, as I argue, the approach must be at a reasonable pace. Its basic elements are:

(a) the introduction of linked rolling plans and budgets, which involves:

  (i) strengthening macroeconomic forecasting for the purposes of overall government revenue estimation

  (ii) better estimation of domestic revenues for education

  (iii) identification of near-term education sector objectives

(b) strengthened decentralised processes in planning and budgeting, involving:

  (i) a more 'pyramidal' planning structure

  (ii) identification of 'planning/cost centres' for planning and budgeting purposes

(c) the introduction of programme elements into budgets, which involves:

  (i) revisions of budget formats and classifications

  (ii) identification of programmes

(d) reform in capital budgeting

(e) better procedures for planning and reporting foreign aid grants and loans

(f) improved expenditure estimation

(g) more accountable budget implementation and improved expenditure control

(a) Rolling Plans and Budgets

Rolling expenditure planning enables governments to have a medium-term perspective of the future financial obligations created by existing policies. A three year perspective is usually considered reasonable and feasible. Revenue and expenditure budgets are made

for the current year and for the next two years, and as each year draws to a close, a new third year is added. Rolling plans should be distinguished from development plans, which are mainly concerned with new policies and interventions. They are not substitutes for annual budgeting, but are part of the process of preparing for annual budgets by setting indicative planning targets for the ministerial sectors. They allow sector planners to prepare forward estimates of their financial requirements which are then considered in relation to the predicted available resource ceiling. The technique allows time for sector planners to adjust their plans and expectations to resource constraints, and gives a certain degree of security about the future. In many ways, the adoption of medium term forward budgeting by its very nature pushes the system towards programme budgeting. Most of the policy reforms discussed in the first part of this paper need to be tested in the countries where they are introduced: experience in other countries may not necessarily be relevant, though some have more evidence of success than others. By establishing mechanisms whereby they can be tested without major disruptions governments will have greater flexibility to innovate and also insure against effects of failure. Data deficiencies can be remedied and policy makers alerted in good time to problems which may arise. Rolling planning and programme budgeting are essentially 'bottom-up' in character, and the effects of policy changes can be evaluated within the normal planning process as managers respond to changes. Improved classification of revenue and expenditure can ensure that there is greater transparency in government budgeting, allowing *inter alia* the assumptions behind fee and local taxation systems to be tested adequately.

Economic Forecasting. The common and conventional reaction of civil servants accustomed to the old British budget procedures is that government cannot safely predict what it will be able to spend next year, and therefore cannot make advance budgetary commitments. In many countries education sectoral allocations have sometimes not been approved until after the start of the fiscal year. While in some instances this is understandable, there is a certain absurdity to this view when considering education systems and the predictability of their base financing requirements: the main issue is by how much expenditure can be increased. It is possible to make reasonable predictions of government revenues over a three year period, and to make sufficient allocation to education to cover 'core' expenditure, and then to allow for under or over estimation which would mainly effect the rate of increase of education expenditure, perhaps through contingency budgeting. The revenue forecasts can be adjusted every year, and, of course, during the year. The assumptions on which they are based should also be made known so that sector planners can evaluate them and be prepared for changes.

Estimation of Education Sector Revenues. Most education planners would prefer to have some indication of the likely future allocations to education to no indication at all. A weakness of line item budgeting is that it encourages planners to defend existing budget allocations rather than to seek better ways of allocating their revenues: if it becomes apparent that a particular line is no longer important it is difficult for planners to argue that they should keep the sums allocated for transfer to another line, which would then receive a proportionally greater increase than the 'normal' rate of increase.

The base for education planning is enrolments in educational institutions: it is from these that all physical requirements derive. Enrolments can reasonably be predicted, although there is a surprising number of countries which do not have up to date and acceptably accurate enrolment data.[59] The more certainty about the level of finance in the near future, the easier it is to plan realistically for institutional maintenance and growth, and also to programme significant changes in systems. Planning on an annual basis can be a barrier to change.

If it is estimated pessimistically, any additional revenue expenditure can be contingently planned, on a percentage basis (for example, 20 per cent of any additional to forecast total revenue will be allocated to education), and/or against contingent budgets (if further resources become available, supplementary budgets which have already been drawn up are ready for implementation). At the end of each fiscal year plans and budgets are prepared for the 'new' third year, on the basis of the sectoral expenditure forecasts given for that year. Without the parallel introduction of rolling multi-annual budgeting it is likely that all budget processes will be pulled back to annual incrementalism. It may also be the case that some of the objections to incremental planning can be overcome by multi-year planning, thereby reducing the scope of necessary changes to the system.[60]

Consolidated expenditure forecasts should distinguish sources of revenue. Thus government budgets alone may not reflect the full costs of the system, but obligations to finance the system fully must be defined in plans. If this is not done, policy decisions about relative allocations within the sector become meaningless. For example, if the university sector receives one half of its total revenues from domestic resources, and, say, the other half from foreign aid; and if the planned structure of total education expenditure indicates a desired proportion of university expenditure as being no more than 15 per cent of total expenditure; the government budget may reflect such a proportion, but in terms of total expenditure the proportion might reach, say, 25 per cent because of relative favouring of universities by foreign agencies. Once revenue forecasts for education are available, they need to be broken down to the sub-sectoral levels (primary, secondary, tertiary, etc), and then to the different planning/cost centres (see below).

Medium-Term Sectoral Planning. Multi-year budgeting encourages medium-term sectoral planning. It

should also discourage an excessive concern with long term vaguely quantified strategic plans (such as ten year plans), which are necessary, but which should be relatively short statements of policy and intent. The failure of most African countries to sustain progress in achieving plans is sufficient warning of the inadequacy of the long term planning approach. The three year plans will be the expression of the detailed direction of the system. If revenues are on a falling trend, then planners are in a position to plan for retraction (or lack of expansion) rather than wait for a suddenly imposed regime of expenditure cutbacks.

(b) Improving the Planning System

A necessary condition for the introduction of better planning and budgeting is improvement of the processes of plan formulation. Under the current systems in most countries, Ministries of Finance in the end are the real policy makers, particularly in times of contraction. There is little point in improving the processes because in most cases the work which goes into developing budgets is wasted when the final budget hearings take place. In other words, planners and the people on whose behalf they are supposed to plan are disenfranchised and subject to last minute arbitrary decisions. This has become a way of life and is accepted with resigned fatalism.

Planning and budgeting should not be passive tasks. Plans and budgets need to be implemented, and accountability for implementation should rest on those who have formulated them. Many, if not most, systems tend to divorce the planner from implementation, and in top-down systems such as those in most African countries, planners (and politicians) make decisions for others to implement without extended and real consultation. Strengthening educational planning and budgeting would include the introduction of a *pyramidal structure of planning and budgeting* which would involve all relevant players in the process.

The obvious basic unit of planning activity is the education institution. At the primary level the school might in principle be considered as a centre of activity, although primary schools would probably not be feasibly translated into planning/cost centres (a cluster system would be more effective). In many countries this is not dissimilar to earlier education systems which emphasised local control. At the secondary level it is more feasible to introduce an element of school based budgeting and planning.

Pyramidal Planning Structures. In a system which contains a number of layers in the planning and budgeting pyramid, a longer budget time horizon allows planners to devolve many planning functions. Over time more and more disaggregated budget centres could be informed of the resources available to them on a three year rolling basis. The experience of voluntary agencies working in basic education, for example, demonstrates the feasibility of allowing village committees how to decide to allocate given sums of money. The shape of the system is illustrated in Figure 1.

Overall sector strategy, planning and budgeting	Joint function of central ministries, including finance and education ministries
Sub-sectoral planning budgeting, and expenditure control.	Sectoral ministries.
Regional planning, budgeting and expenditure control.	Regional
Institutional budgeting, planning and expenditure control.	Universities and colleges; secondary schools
District budgeting, planning and expenditure control	Districts
Sub-district budgeting, planning and expenditures control.	Sub-district agencies, schools, communities.

Figure 1: Pyramidal Structure of Education Planning and Budgeting

A strength of this approach lies in the legitimation of the allocation of reduced and insufficient finance for given activities: if communities and institutions can decide how to spend their limited resources rather than have it decided for them they are arguably more likely to 'own' their schools and institutions and contribute to their development. There are some important implications of the approach at the school level, most particularly relating to the training, recruitment and payment of teachers.

The heterogeneity of education systems must also be recognised. Approaches to budgeting at primary, secondary and post-secondary levels should differ, and be related to accountability for budget implementation. While in rural areas primary schools are community institutions, secondary schools and urban primary schools are often less community based: in these cases school governance becomes an issue. Universities are in many ways the easiest institutions in which to initiate budget reform, and they lend themselves well to programme linked budgeting, although experience suggests political rather than practical difficulties work against such reform.

Thus, a key feature of the eventual system would be the final realisation of participation of school communities in decisions about the allocation of subsidies: this has been a paper policy in many countries for a long time. For example, primary teachers may fail to arrive at their postings because of the absence of accommodation, remoteness, and other factors. Many school buildings are in a state of collapse. Over time the teaching profession becomes demoralised by a persistent lack of resources, low pay and difficult conditions, and no amount of training and exhortation will be effective. The mistake is to believe that planners and educationists can always decide what diverse communities want to do about the problem. At the moment, for example, when the teacher does not

arrive at post, the salary is clawed back by the Treasury. The school has effectively lost a significant part of its budget. This is because of the bureaucratic division between salaries and non salary costs, which could be modified under a reformed budget system. There is no *a priori* reason why funds budgeted for salaries cannot be vired to provide a better environment, or buy materials, or in any other way enhance the quality of school life.

Planning/Cost Centres. At present most countries have a structure of district education offices and local government, and it is usually possible to allocate revenues between them. These are in effect 'cost centres' for primary education and sometimes secondary education. At the post secondary levels budgeting is usually done at the institutional level. Under a rolling plan system cost centres can be given a reasonably firm allocation for the next year as well as indicative allocations for the subsequent two years. As planning capacity is extended and strengthened at district and local authority levels, the districts themselves can create further cost centres, as shown in figure 1.

(c) Programming the Budget

I have noted that the main reasons for the failure of programme budgeting to be widely adopted lie in the difficulties that political and institutional authorities have in reexamining the the base budget, and in the complex ways in which the technique has tended to be introduced.[50] An examination of the programme budget formats which have been tried confirms that they have required a great amount of skill and time. It should be noted that many of the recorded attempts to introduce programme budgeting did not take place in the framework of forward expenditure planning on a rolling basis.

However, programme budgeting should not be regarded as a fixed system: there is no 'right' approach (see the box for an outline description of the main elements). Indeed, the paucity of experience in the application of its techniques ensures that every approach to its introduction will be original, which may have the advantage of ensuring that it is locally relevant. One major difference between the experiences of many countries in the recent past and now is the rapid diffusion of micro-computers over the last decade, particularly the last five years. Its introduction should be gradual and be accompanied by intensive training within the contexts of the institutional changes described above.[52] I do not propose major upheavals in budgeting and planning. Experience suggests that the success of past attempts to introduce programme budgeting is more to be found in improved practices after the 'pure' technique is abandoned, rather than in major permanent change to the financial system as a whole.[53] It is for this reason that I emphasise in this paper the need for improved planning as it relates to financial requirements to support plans, rather than propose a set technocratic solution. Elements of the budget can be programmed, and education budgets lend themselves to this approach, for a number of reasons, including the following:

(a) a large component can be centrally managed, such as teachers' salaries (although ways of introducing flexibility into teacher recruitment and posting should be sought);

(b) the relation of teachers and the associated 'capital' (books, materials, classrooms, etc) they require is relatively easy to determine;

(c) some components of the budget, such as universities, colleges and large schools, can themselves programme their institutional budgets, which can still be presented in the sectoral budget estimates as lump sum line items;

(d) similarly, decentralisation of budget formulation (eg to districts) can involve programme budgeting at the decentralised level, with a simplified presentation to the Ministry of Education, thence to Finance.

Budget classification is at the heart of programme budgeting (see box). The main problems arise when expenditure classifications become too complex, but it is possible to avoid this problem by not being too ambitious in the design of the system, as I have noted. It should always be borne in mind that the basic purpose of programme budgeting is to relate plans to resources and then enable planners to evaluate outcomes by stating objectives, goals and targets, and relating outcomes to the resources used to achieve them.

The easy availability of micro-computers and accessible software allows a great deal of flexibility in budget construction. It is possible to build up programme budgets without affecting expenditure control and accounting systems, one of the main problems experienced in past attempts to programme budgets. Budget codes enable budget items to be 'cross-walked' from programme budgets into line item formats. The computer programming required is not complex. The development of the system can thus take place over time, and it is not necessary to overturn the line item format in order to introduce programme budgeting. The extent to which the easy availability of computers takes risk out of budget reform is not fully appreciated.

An Outline Description of Programme Budgeting

The education system as a whole is broken down into programmes. These might simply be 'primary education', 'secondary education, 'technical education', 'higher education', 'special education', and so on. One programme might be the maintenance of the existing system. Each programme is broken down into objectives and sub-objectives. Objectives might be 'curriculum development', or 'reduction of

early leaving', or 'instructional programmes', or 'support programmes'. They can be very close to existing classifications in many instances. A sub-objective of 'curriculum development' might be 'new maths materials'. Objectives are in turn made up of activities. It should be noted that one of the most common problems is to avoid double counting: for example, an activity in the sub-objective 'new maths materials' might be the training of teachers, which could itself be another objective. To achieve a specified objective a number of activities may be undertaken which cut across departmental boundaries, such as would occur with a sub-programme 'increase girls' participation' in the programme 'primary education'.

The budget should relate to Government policies and goals, and therefore the justification for spending must be tied to these policies and goals, contained in the narrative statement for each activity. Goals cannot normally be achieved in one year, so that annual targets (or attainable goals) are necessary. The target must be a quantitative expression of policy, and any programme may have more than one target. Activities would tend to have one target. It must be possible to monitor targets. Expected outputs would be specified. Plans would therefore need to be broken down into a series of annual work programmes which can be accomplished with available resources.

There are likely to be significant variations in approach to budget reform at the different education levels. Universities and large secondary schools, for example, can prepare institutional programme budgets[64], while at the primary level budgets are likely to cover the whole sub-sector.

The introduction of programme budgeting to education should be governed by a number of broad principles. First, it should be slow and be piloted in selected regions/districts. Second, programmes should be broad at first, thus changing the minimum amount of the current formats. Third, the principle of relating plans to budgets and *vice versa* should apply to all main expenditure heads: in other words, programme budgeting should at least cover a part of all main spending. At the same time the type of budget process which is being aimed at should be defined, even if it takes many years to get there. Above all, experience suggests that reform of budgeting systems in one sector alone will create tensions with the Ministry of Finance systems, and that this will erode the effectiveness of the reform: financial systems must change overall.

Budget Formats and Classifications. As I have noted, budget classifications must be able to reflect the rolling forward expenditure plans. The purpose of classification is to make government operations transparent and to render them amenable to economic analysis. Under incremental budget systems the most that can be said about education sector budgets relates to issues such as the balance between salary and non-salary budgeted expenditures, or the 'low' expenditure on supplies. Sector 'overheads', such as planning and administration, cannot easily be analysed. The budget gives very little idea of what is actually happening in the system.

Revenue classifications should distinguish different sources of revenue, such as revenue from fees (both direct and through loan recovery), foreign aid (analysed between grants and loans), local taxes, and so on. Both revenue and expenditure classifications should distinguish between capital and recurrent finance. At the same time capital and recurrent classifications should be standardised: capital expenditure should be included in programmes alongside recurrent- expenditure, and the budget codes should be the same. This goes a long way towards avoiding the problems that arise from double-budgeting. For example, if sub-programme 230 is 'curriculum development', resource centres to be constructed under the capital programme would have the same sub-programme code as recurrent expenditures for, say, salaries of curriculum developers. In this way all expenditures associated with curriculum development would be transparent, and the relation between capital spending and associated future recurrent finance requirements would be clear.

(d) Capital Budgeting

In general, capital expenditure is an outlay which is of value in the provision of benefits beyond the end of the year of account. This does not imply that capital expenditure is by definition 'developmental' while recurrent expenditure is not. Capital expenditure can either be made out borrowed funds or out of internal, or 'own', funds. It has been long recognised that capital expenditures in education systems in developing countries have resulted in an expansion of assets which cannot always be maintained or replaced, and which have had considerable finance costs. Foreign aid has contributed significantly to capital expenditure, as I have noted. Most existing approaches to accounting for capital expenditure are based on the analysis of loan principal and interest. Where capital expenditue is financed by 'own' funds or by grants it appears in the accounts only in the year in which it was made, as there are no interest costs attached to it. More usually, perhaps, foreign aid grant expenditure does not appear at all in capital accounts.

The costs of public sector services are therefore linked to financing decisions and not the actual use of assets in providing those services. As loan repayments and interest costs are not included in the education sector budgets, the costs of asset use are not included in calculations of educational costs, as I discussed in the first part of this paper. Even were loan repayments to be included in the sector budget, where the main source of capital finance is grants there would be no entries for finance costs. Fixed assets are, to the education

sector managers, debt free, and this explains much of the poor accountability for asset stocks.

In general, the acquisition of a fixed asset brings with it three elements of direct expenditure: the initial outlay; the maintenance of the asset through its lifetime; and the interest expense where the asset is financed through borrowing: where it is financed through grant aid or 'own' funds, a common practice in public authorities in developed countries is to apply notional finance costs. Of course, the indirect cost of grant aid is the alternative use of the finance, which, in reality, may not be an option, as in the case of tied aid.

The main differences between capital budgeting in the private and public sectors is that in the private sector provision is made for depreciation of fixed assets, ensuring that the profit and loss account bears a charge for the use of the asset, and that distributable profit takes this charge into account. Depreciation is the measure of the reduction of the economic life of the asset as it wears out or is consumed. It should be allocated so as to charge a fair proportion of the cost or valuation of the asset to each accounting period expected to benefit from its use. Depreciation allowances reflect both the charges for the use of the asset and for maintaining the capital in the business intact. Public sector assets are not normally depreciated. The consequence of this is that the costs of services are not separated from decisions about how they are financed and that there is no provision for asset replacement.

Although the public sector has traditionally not depreciated assets, there is considerable interest in a number of countries in this issue. In the UK, for example, local authorities are being recommended to change the way they account for assets, including the introduction of depreciation charges.[65] This will involve the standardisation of asset lives: for example, schools are given a 50 year life, furniture 15 years and vehicles 3 - 8 years. All assets are to be valued at replacement cost (unless they are to be discontinued, such as a school closing down).

There are compelling reasons why the introduction of better capital accounting might not be feasible in African countries, including its potential complexity, the difficulty of valuing many assets, and the lack of working accounting procedures. However, there has been in many countries an undoubted tendency to create assets which cannot be replaced or maintained, particularly when they are financed through external grant funds. The introduction of depreciation accounting in public budgets would create a register of assets and asset values; and ensure through the budget the proper provision for asset replacement.[66]

There are two categories of conclusion from the foregoing discussion. The first is that education authorities in most African countries have little incentive to protect the value of assets and make provision for their replacement. The second is that they are not involved in the management of finance costs, and therefore have little interest in them. Ways of tackling these problems should be sought which suit the systems of individual countries. Where, for example, management is devolved upon local governments, local accounting systems could be strengthened over time to the point where they can produce balance sheets showing asset values. In most countries such a time is probably far off, though education sector institutions, such as universities and autonomous colleges, should keep proper capital accounts.

The budgeting and accounting conventions to be applied to private schools could include the requirement that revenue accounts bear a charge for depreciation. This should certainly apply to those instances where private secondary schools receive grants of public money to finance capital assets. A condition should be that they present their yearly audited accounts to show that proper provision is made for asset replacement. This would impose discipline on expenditures and help to create reserves.

Programme budgeting requires that the purchase, maintenance and replacement of assets acquired through domestic or foreign finance be included in the budget for each programme. Most capital expenditure programmes, such as school building and equipment, or even textbook programmes, take place over several years. Under a rolling system future capital replacement requirements can be foreseen and built into the future budget. At the institutional level it may be possible to introduce procedures so that reserves can be built up over time for asset purchase.[67]

The concepts of capital maintenance and replacement are central to the achievement of sustainable systems. While in many countries they are almost irrelevant because of the acute underfunding in recurrent budgets, it is important that discipline be imposed. Depreciation accounting is the standard and effective way of encouraging good use of assets, and, although it may not be a viable alternative for many years in most African countries, the concepts which underlie it should be carefully considered when building new budget systems. There is a good case for aid 'donors' to take more interest in how the assets they have helped to finance are protected.

(e) Budgeting Accounting Foreign Aid

I have noted that foreign aid has played and is playing a major part in the development of the education systems in many countries, and that a good deal of aid is not included in normal government budgeting and accounting systems. There are several reasons for this, including the lack of confidence of many 'donors' in government financial procedures and the significant amount of foreign aid which is purchased outside the recipient country, such as technical assistance and certain goods. Advantages to recipients of keeping aid out of normal budget processes include access to flexible funds which bypass government budget controls. In

many countries aid in the form of balance of payments support is increasingly important, and has brought with it its own problems, including those associated with the use of, and accounting for, counterpart funds.[68] However, sound budgeting must be comprehensive, and all government revenues should be paid into, and all expenditures paid out of, a single Consolidated Fund. While this state of affairs may, in the case of foreign aid budgeting and expenditure, be difficult to achieve, it should, as in the case of better capital budgeting and accounting, be a target.

External assistance to education brings with it three inherent dangers. The first is that it encourages expansion beyond the capability of domestic resources to service the expansion. The second danger is the encouragement of inappropriate technology and structures, and the third is the resulting rise in expectations accompanied by a dependence on 'donors'. All of these can create an excessive dependence on foreign resources to maintain the system unless foreign aid is planned for in a rational manner to fit into existing priorities.

Foreign Aid and Education Expansion. General literature on foreign aid[69] tends to concentrate on agriculture, water supply, industry, and sectors where outputs can be relatively easily measured. Where education is discussed it is in terms of physical achievement which is invariably expansionary. Rising enrolment rates are assumed to be a positive achievement, and a well-educated population is assumed to be a necessary condition for economic growth. Whether these assumptions are fair or not, an important characteristic of the education sector is usually ignored: it is in most countries the single greatest item of public expenditure after defence. Expansion of education provision almost always means an increase in public spending.

The seemingly easy availability of development finance encouraged countries to experiment and accept foreign initiatives with little thought to their sustainability or appropriateness. Foreign finance promoted the expansion of education systems to the point where they sought to reach all sections of the populations, which became accustomed to the idea of universal provision. At the same time the expectations of education managers were raised while, in many cases, they concurrently became to greater or lesser degrees de-skilled because of the tendency for 'donors' to design programmes themselves and for hierarchical and authoritarian civil service structures to ignore local managerial staff.

In some countries external assistance comprises nearly all the 'development' expenditure in education sectors, although there may be little apparent relationship between 'development' expenditure and recurrent budgets, a relationship which is to be expected because each new investment should carry with it additional recurrent obligations. Development programmes have tended to be adjusted to a level permitted by available foreign exchange, and additional resources for meeting local costs have often had to come from inflationary sources.[70] Expansion of education sectors appears to have been frequently *determined solely by the availability of foreign exchange from foreign aid, with little reference to what each country can afford to maintain from its own fiscal resources.* The alternative is to deploy external assistance at a reasonable level to support domestic deficits, and of course, in the case of foreign loan finance, to support debt repayment.

In many countries the proportion of foreign aid accounted for by the costs of technical assistance is around one quarter of the total, and in some the total expenditures on technical assistance exceed the civil service salary bill.[71] Technical assistance is rarely passed through or reported in budgets. While some countries insisted that technical assistance be integrated into the public service, over the years agencies required that their projects operated autonomously, outside 'normal' structures. Failure to account for the expenditures on technical assistance distorts many cost analyses in the education sector: examples include curriculum development and higher education.

A key issue is therefore for countries to regain, where they have lost it wholly or in part, control over education systems and their future development. One of the necessary conditions of doing so is to improve budgeting and accounting for foreign aid. The first step is to ensure that aid to the education sector reflects sector priorities. The best way to identify priorities is to consider what they would be in the absence of foreign aid, in other words, how the sector would be planned for on the basis of domestic resources only. Domestic resource planning and budgeting does not necessarily imply that countries should try to dispense entirely with external assistance. It is a way of encouraging planners and managers to identify core funding requirements of the sector.[72]

Underfunding. 'Underfunding' has tended to express the finance gap between a reasonable level of funding for *the education services that actually exist* and the available resources to support them. The concept excludes by implication any reduction in the scope of services, and is used as a justification for external assistance to support existing systems in order to avoid restructuring. A better way of looking at the finance gap would be in terms of the desired expansion of the system to provide a better and more comprehensive service. I have already noted the example of Universal Primary Education, where, instead of planning for a sustainable increase in enrolments, governments (and aid 'donors') encouraged through positive measures a rapid increase which could not be supported, forcing themselves to seek yet more external funding. The same applies to the expansion of higher education in many countries. Thus, core funding should relate to the fiscal capacity of the country to support its education system, rather than to what is required to finance an extensive system modeled, for example, on the best characteristics of those which exist now in developed

countries.

External assistance can then be applied with circumspection to develop the system. Each programme's foreign aid component should be identified separately where possible, and the rolling three year budget should show how the component will be sustained. One approach to the introduction of programme budgeting would be to programme all components of the education sector which benefit from foreign aid. In many countries the introduction of such a system would show in a very short time the extent to which externally financed initiatives cannot be sustained. It may be possible for education planners to indicate a ceiling for foreign aid in any period: this could be, for example, a rule of thumb ratio of aid to the domestic resource ceiling.[73] It is clear that these changes cut across all sectors, and cannot be limited to education ministries. They rely on leadership and cooperation by Ministries of Finance, including, for example, the development of manuals of instruction to sector planners on how to treat foreign aid. They also rely on cooperation by donors, both to pass the funds through the budget as policy and budget practices improve, and in the analysis and evaluation of current projects.[74]

(f) Improving Expenditure Estimation

Irrespective of the changes to the budget format, techniques of budget estimation will in most countries need to be strengthened. Estimation should be simpler under rolling programme formats because activities are more clearly set out and because the iterative process of relating estimates to available resources enables budgeters to adapt their estimates. A commonly recommended approach is the use of 'norms' and formulae. This involves establishing quantities required to achieve given objectives, such as average ratios of books to pupils across subjects, the number of pupils per teacher, the number of teachers per various types of allowance, and so on. While in many respects these are desirable, they can also promote overestimation and a loss of flexibility, and the approach has many disadvantages in annual incremental budgeting systems. Many countries in which norms are given to education ministries by finance ministries find that their norm-based budgets are disregarded at the last minute by the finance ministries in the process of budget reduction. The requirement to budget to norms has little point if they are not respected. Another problem with norm-based budgeting is that norms become fixed and inflexible. For example, as book procurement and distribution capacity develops, textbook-student ratios can increase. The current tendency is to fix 'ideal' norms and then aim at them, rather than to set realistic ones and achieve them. A related problem is the existence of conditions which make the achievement of norms almost impossible, for example, where universities try to achieve efficient staffing levels starting from a position of over-staffing.

Where the estimation process is more effectively iterative a more flexible approach is possible. Norms can be adapted and changed as required. Managers are in a better position to define their requirements in terms of what they want to achieve rather than in terms of fixed quantities prescribed for them. Furthermore, variations in what can be provided outside the government budget can be taken into account: if desks, or chalk, are easily available locally then they can be provided by schools and the savings be applied elsewhere in the system.

Thus the estimation process cannot be separated from the allocation process. While the use of norms is useful as part of the process of identifying total resources required, under programme budgeting with identified cost-centres schools or clusters of schools can eventually become the lowest unit of allocation. However this is done, whether by capitation grants or by other means, the integrity of the cost-centre budget and the right of its managers to allocate from it should be respected within reasonable guidelines. For example, while norm budgeting would specify fixed quantities of particular items for delivery to a school, parents and teachers in a primary school may wish to reallocate some of the money for chalk or desks to books, and should be allowed to do so. Such a process implies a degree of zero-based budgeting, which is a useful way of evaluating the effectiveness of norms. Ministries could run annual ZBB exercises on selected norms.

(g) Expenditure Management and Accountability

In many countries education ministry and some institutional accounts fail to receive auditors' approval. The reasons may be numerous. Rules and regulations of expenditure management may not be respected by concerned officials: payments are made against proforma invoices, without supporting vouchers, or without authorization; cash books are not maintained; bank reconciliations are not produced; stores are not recorded; the payroll includes ghost employees; and so on. The combination of lax expenditure controls, off-budget foreign aid and cash-starved finance ministries creates serious difficulties for education expenditure management to the extent that there may be up to three parallel budgets: that approved by the legislature; departmental and institutional budgets which include foreign aid as well as the legal budget; and a cash operated budget by the finance ministry concentrating on timely releases of the approved budget to education, sometimes failing to release the required amounts.

Many expenditure management problems originate in poor budgeting, and the proposals outlined in previous paragraphs are designed to address these problems. Programme budgeting specifies more clearly who is responsible for budget implementation, and sector structures need to be adapted to reinforce accountability. Forward budgeting allows overspending to be adjusted against next year's budget, so that education ministry managers see clearly the effects of their actions on future releases. Initiatives to improve

accounting, cash management and expenditure reporting must go hand in hand with improvements to budgeting, both in education ministries and in finance ministries, and aid 'donors' should take a keen interest in ensuring that these initiatives take place. Otherwise it will be unlikely that foreign aid will be passed through the budget.

C. Conclusions: Affordability and Sustainability

Phased Implementation. While revenue classification can be improved in a fairly short time, the reclassification of expenditures is more complex, as is the strengthening of capital and foreign aid budgeting. In the first part of this paper I emphasised that a necessary condition for the implementation of the reforms which have been proposed for education systems in Africa was the setting in place of appropriate management and planning mechanisms, and that this alone could take many years. Expansion policies such as Schooling For All and Universal Primary Education not only depend on resource availability but also on management capacity. I have also noted the constraints on domestic resources and the possible decrease in the levels of foreign aid available to Africa.

'The Receding Managerial Limit'. 'Planning implies on the one hand a purpose, and on the other, the organization of resources to accomplish this purpose in some desired manner.'[75] A key resource of any organisation is its management, and at any given time the capacities of the existing management staff set a limit to the expansion of the organisation. This paper has set out approaches to overcoming the problem of the 'receding managerial limit',[76] through improving the tools available for managers and the structures in which they work, but also by suggesting a different approach to marshalling the resources they have to hand. The constraints which apply to all other reform initiatives also apply to those suggested here. They must be phased in slowly.

Sustainable Development. The concern with sustainable development has been brought to the fore by environmental concerns, where they relate to the impact of projects on, for example, national income, human welfare, depletion of physical resources and technological change. The criteria in these cases relate to *irreversible* effects of projects, how to foresee them, measure them, and accommodate or avoid them.[77] In many respects the economics of the environment is similar to the economics of human resources, most particularly in their long term horizons, and the associated problems of valuing externalities. The essence of environmental economics has been the elaboration of techniques to value what was previously thought to be unevaluable. This may well be mirrored in educational analysis, as many of the current approaches encourage short-term viewpoints, as I have noted in Part I. While poor decisions in educational policy may well lead to irreversible damage, in the sense of opportunities lost, sustainability in a practical sense must mean the ability of countries to maintain education provision of reasonable quality *with domestically generated resources*: the ability to borrow and repay loans, and to maintain asset stocks is part of domestic capacity.

Affordability. The title of this paper suggests that education is an unaffordable commodity. In relation to the total educational wants of a population this is probably by definition true. However, by concentrating on reforms and improvements which will result in a better fit between available resources, local management and professional capacity, and the scope and size of educational systems, African countries can afford better quality. These reforms and improvements cannot be restricted to the education sector alone, but must be undertaken parallel to improvements and reforms in Ministries of Finance and in civil services in general. Such an approach contrasts with expansionary approaches such as those of the Jomtien Conference which commit countries to build their education systems up further on weak foundations, and to follow this more cautious approach would be to heed the lessons of the last two decades.

Policy Implications for Donors

In this paper I have argued that most countries are likely to experience considerable difficulty in implementing simultaneously the triple initiatives of expenditure reallocation, improved budget management and system expansion. The main implication for donors of the types of policy I have proposed is the need to recognise that the pace of change is almost certain to be slow, in contrast with the aspirations of many donor initiatives, particularly those within the context of the social dimensions of structural adjustment.

In particular, it is important that the availability of foreign aid does not encourage the unsustainable expansion of education systems, resulting in a serious deterioration of quality. The growing importance of programme aid and counterpart funding via balance of payments support has heightened awareness of the need for governments to improve policy as well as policy implementation processes, but donors should take care to avoid unrealistic prescriptions. At the same time, donors should reflect the introduction of rolling plan budgeting in aid policies, with longer term commitments of aid to be passed through budgets in order to give governments a better idea of what resources are likely to be available, of course within an acceptable and feasible planning framework. This would require a much better match of projects and educational policy than has hitherto been observable.

At the level of programme design for the strengthening of planning and budgeting in the education sector a key lesson of the past is the need for coordination between sectoral ministries and ministries of finance. I have suggested that in most countries there is a need to improve overall public sector budgeting and that failing to do so will dilute the effect of improvements

at the sectoral levels. Sectoral donors should take a wider view of their interventions. Many may consider this to be a daunting task, but I argue that a gradual process of reclassification of budget heads is possible and that there need be no conflict between the budget formats used by ministries of finance and education. When the mechanisms by which change may be effected are in place countries will be able to take effective steps to initiate affordable and sustainable improvements in their education services.

Perran Penrose
Cambridge, UK
March 1993

[1] See Sahn, D.E. Public Expenditures in Sub-Saharan Africa During a Period of Economic Reform. *World Development*, Vol 20, nr 5, 1992, pp 673-693.

[2] 'Inflation des effectifs et des coûts, stagnation des débouchés et stabilisation des perspectives d'emploi, telles sont les caracteristiques de la stagflation scolaire' ('The inflation of enrolments and costs, the stagnation of job opportunities and the levelling off of employment prospects, are the characteristics of educational stagflation'). Hallak, J. *A Qui Profite L'Ecole?* Presses Universitaires de France, 1974, p149.

[3] Eg Coombs, P.H. *What is Educational Planning*. IIEP, 1971.

[4] Eicher, J.C. *Educational Costing and Financing in Developing Countries*. World Bank Staff Working Papers Nr 655, 1984, is one of the best analyses of finance issues. Also see World Bank, *Financing Education in Developing Countries: An Exploration of Policy Options*, 1986; Haddad, W.D. *et al*, Education and Development: Evidence for New Piorities, World Bank Discussion Papers Nr 95,1990; Stromquist, N. A Review of Educational Innovations to Reduce Costs in *Financing Educational Development:* Proceedings of an International Seminar held in Mont Saint Marie, Canada, 19-21 May 1982, IDRC and CIDA, pp 69-94; Colclough C. with K. Lewin, *Educating All the Children*, Oxford, 1993. Other references are given throughout this paper.

[5] Markets, it has been said, work incrementally. All required changes - in price signals, in people's response to incentives, in shifts of resources - take time... The likelihood of market failure is a function of the degree of urgency - or impatience - attached to a particular change. The *prima facie* case for government action to promote development in underdeveloped countries rests largely on the belief that what is needed is *rapid* economic development, the compression into a few decades of a process that in the West took centuries' (Arndt, H.W. 'Market Failure' and Underdevelopment, *World Development*, Vol 16 Nr 2, Feb 1988, quoted in Killick, T. *A Reaction too Far: Economic Theory and the Role of the State in Developing Countries*, ODI London, 1989, pp 62-63). A key condition for improvement, which Killick analyses, is the improvement of government and civil service administration: 'What matters more than its absolute size is how the state goes about its tasks and what relationship it establishes with the private sector'.

[6] See Dougherty, C. Education and Skill Development Asian Development Bank/World Bank Seminar on Vocational and Technical Education and Training, Manila, January 1990, p 22 *et passim*.

[7] This paper does not elaborate on the relationship between education and economic growth. It is more likely that determinants of South East Asian growth are more to be found in industrialisation strategies and their relation to education strategies than in education alone. The World Bank *World Development Report* of 1991 (mainly Chapter 3) proposes that education is a sufficient condition for economic growth. However, the assumption behind growth models underpinned by human capital theories that output is determined solely by supply factors, all resources being fully employed, cannot be easily defended in the case of Africa. For an excellent summary analysis of this issue see Fanelli, J.M., R. Frenkel & L. Taylor, The World Development Report 1991: A Critical Assessment, Feb 1992, available from the economics department of the Massachusetts Institute of Technology. For an interesting account of the education strategy in one South East Asian country, see Woo, J.H. Education and Economic Growth in Taiwan: A Case of Successful Planning, *World Development*, Vol 19, Nr 8, 1991, pp 1029-1044. There is much to recommend the study of East Asian education development experience to provide fresh perspectives on education in Africa.

[8] See Blaug, M. *Education and the Employment Problem in Developing Countries*, ILO, 1973, pp 79 ff. This classic paper, written twenty years ago, is as applicable today as it was then, and its prescience is sobering. For a fascinating, and instructive, historical discussion of the same issue, see West, E.G. *Education and the Industrial Revolution* Batsford, 1975, pp 245 ff.

[9] See Tilak, J.B.G. *Education and Its Relation to Economic Growth, Poverty, and Income Distribution:* Past Evidence and Further Analysis, World Bank Discussion Paper Nr 46, 1989, for a summary of these influences.

[10] See footnote 32.

[11] See also Lall, S. Human Resources Development and Industrialization, with Special Reference to Sub-Saharan Africa in Griffin K. and J. Knight (ed), *Human Development and the International Development Strategy for the 1990s*, Macmillan, 1989, Chap 6.

[12] All the same, many countries have managed to increase levels of total public spending although there were declines in the period around 1982-84. See Sahn, *op cit*, for evidence for this and other statements in these paragraphs. Although his data are mainly from secondary sources, and may include budget data rather than verified actual expenditure, they do seem to support the claim that public expenditures have been robust. He does not, however, make distinctions between unilateral external assistance and loans, and it is therefore not always easy to decide how far growth is a function of large inflows of foreign grant aid. For the 1970s, see Zymelman, M. *The Burden of Education Expenditures and its Forecast*, World Bank,

Washington, 1978.

[13] A contemporary case is Tanzania, with a ratio of Official Development Assistance (ODA) to GNP of nearly 50 per cent - a high figure when considering the likely understatement of aid flows. It should be noted that the denominator of the ratio is in many ways most important: Tanzania does not by any means have the highest per capita level of external aid. For example, neighbouring Malawi has a higher per capita ODA, but the ratio to GNP is about half that of Tanzania. Considerable care is needed, as always, in interpreting this type of data because of the potentially serious inaccuracies of national income accounting and different economic structures. See also footnote 26.

[14] For example, World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Growth*, 1989: 'Total expenditure on human resource development should be steadily expanded until it reaches 8 to 10 percent of GDP annually, about double present spending (with donors meeting about half the total). Infrastructure spending should rise to around 6 percent of GDP. This would cover capital and recurrent expenditure and ensure adequate resources for maintenance and running costs' (p 12). This last was to be financed through higher taxation and lower public wage bills. Aid was to provide recurrent as well as investment finance. How all this is to be financed is not addressed at all: see, for example, the weak discussion of 'sustained financial support for human resource development' on pp 87-88.

[15] US$ 30 billion for the world by the year 2005. Minimum aid flows to Africa are given as US$ 15 billions, (Colclough and Lewin op cit, p 239). Another UNICEF report, *The State of the World's Children*, OUP, 1993, gives a figure of US$ 25 billion per year to provide basic health and education services.

[16] For a dissident voice, see Hallak, J. Education for All: High Expectations or False Hopes?, presented to the Oxford Conference, September 1991. Hallak also writes that financial factors 'become vital issues only if the economy is in bad condition'.

[17] Sahn, *op cit*, calculated elasticities of social sector spending with respect to GDP (greater than unity) and to total government expenditure (less than unity). The variations from unity are slight, and the time series is short. It is reasonable to conclude that they are both around unity and that therefore economic growth and decline (at least as measured by total GDP, which may be misleading) are not associated with significantly more than proportionate growth or decline in social sector spending. Sahn emphasises the need for detailed country studies, however.

[18] Reducing the current external cash flow obligations and payments on debt account will thus probably be the most cost effective form of official external resource transfer to Africa in the 1990s.' Helleiner, G.K. Africa's Adjustment and External Debt, World Development, Vol 20, Nr 6, 1992, pp 779-792. An issue which is often overlooked is the rising domestic debt costs resulting from financial liberalisation policies.

[19] See Beeby, C.E. *The Quality of Education in Developing Countries*, Harvard University Press, 1966, for an analysis of 'stages' of educational development.

[20] Berg E, *Rethinking Technical Cooperation: Reforms for Capacity Building in Africa*, UNDP, 1993. A feature of foreign consultants and aid agency staff has been a certain lack of accountability. Whereas engineers require professional indemnity insurance against design negligence and error, I know of no case of an agency or individual being sued by a country for bad advice. Timothy Curtin (Curtin, T. *The Economics of Public Investment in Education in Papua New Guinea*, University of Papua New Guinea Press, 1991, p 4) makes the somewhat extreme point that those who make up what he calls the 'consensus school' of educational cost-benefit analysis could be locked up under regulations governing the provision of financial services for misleading analysis!

[21] Dore, R. *The Diploma Disease*, Allen and Unwin, 1976, pp 72 ff. 'In the Third World today the importance of qualifications is greater than in the advanced industrial countries. Education systems are more likely to be geared to qualification-getting, and the consequences for society and its patterns of development are likely to be even more deplorable than in our society.' (p 83)

[22] eg Devon, R.F. Foster's Paradigm Surrogate and the Wealth of Underdeveloped Nations, *Comparative Education Review*, October 1975, p 403, in relation to Papua New Guinea. This piece is a rejoinder to Foster, P. Dilemmas of Educational Development: What We Might Learn from the Past, in the same issue, p 375, and is not altogether fair to Foster who, inter alia, suggests shorter education cycles (p 384)

[23] This is not confined to developing countries: in the UK there is now a lag of about one year before local government education expenditures are consolidated and reported.

[24] But see page 24.

[25] 'Society' should not be confused with 'government' (see, for example, Psacharopoulos, G. and M Woodhall, *Education for Development: An Analysis of Investment Choices*, OUP, 1985, pp 35-37).

[26] The literature on national income accounting is immense. See also the technical notes on the quality of data in *Accelerated Development in Sub-Saharan Africa*, pp 187-188, and in the World Bank's

Development Reports. More recent IMF calculations of purchasing power parity (PPP) national incomes show startling new international rankings. Similarly, the custom of expressing national financial data in US dollars at current exchange rates has resulted in re-workings of national income series in some countries to make them appear consistent over time.

[27] There are usually also other items of non-discretionary expenditures such as those relating to pensions and upkeep of key state institutions, and, in some countries significant 'special' items relating, for example, to costs of restructuring: these are often labelled 'discretionary' but in reality should probably be considered as nondiscretionary.

[28] For example, in Tanzania the Ministry of Education budget only accounts for about 25 per cent of the total public education budget, with local government budgets taking the largest share: there is a separate ministry for higher education. Other ministries' expenditures on education add about 3 per cent to total government expenditure on education. In Nigeria the Federal allocation to the states' accounts for the largest share of budgeted expenditure at state level, but separate reference must be made to state budgets for the full picture. For sources see Penrose, P. *Review of Public Expenditures in the Education Sector in Tanzania*, July 1992, available from the European Commission in Brussels; World Bank, *Nigerian Secondary Education Sector Report: A Study in Contrasts*, West Africa Department, August 1991; Penrose, P. *Issues in Education Finance and Planning in Nigerian Secondary Education* World Bank West Africa Department, April 1992; Hinchliffe, K. Federation and Education Finance: Primary Schooling in Nigeria. *International Journal of Education Development*, Vol 9, Nr 3,1990, pp 157-162. Many African governments have significant local government involvement in primary education, with concomitant fragmented budgetary reporting.

[29] Education cost-benefit analytical techniques are concerned with years at school rather than what is learnt within school. The confusion of schooling with education results in a misspecification of the earnings function which will lead to overestimation of the returns to expansion of low quality schooling, which has indeed occurred in many countries, and neglect of alternative quality improving investments which will have relatively higher rates of return. See also P. Glewwe, Schooling Skills and the Returns to Investment in Education. LSMS Working Paper N176, World Bank, 1991.

[30] For example, the failure to take into account benefits to society from indirect taxation (see Curtin, op cit) and costs to society of public services financed from inequitable tax systems.

[31] Externalities occur when all the benefits and costs of transactions are not fully incorporated in their market prices. They can be positive or negative. Evidence on externalities is difficult to collect, particularly in manipulated labour markets. See, for example, Knight, J.B. and R.H. Sabot, Education, Productivity, and Equality: The East African Natural Experiment. OUP, 1990, pp 23 ff. The extent to which social benefits accrue from increased labour productivity may also be exaggerated. However, the importance of externalities to the various levels of education should not be underestimated. For example, externalities to higher education may be significant, but, of course, are hard to measure. It may well be that externalities to primary education, being easier to measure, are more seductive in their policy implications. Consider, for example, Psacharopoulos, G. Priorities in the Financing of Education. *International Journal of Educational Development* Vol 10 Nrs 2/3 1990, pp 157-162: 'Why should the limited educational budget of a country x finance the production of a microchip specialist who will be employed in the local branch of a multinational firm?'. The author subsequently asserts that *because* externalities to higher education are hard to measure, and because the existence of greater externalities to primary education is 'intuitively' more likely, fiscal resources should not be used to pay for higher education. One man's intuition... There may well be a much better case for public investment in post-secondary education than is commonly admitted at present, particularly in terms of 'dynamic externalities' (how they relate to innovation and growth) (see Stewart F. E. Ghani, How Significant are Externalities for Development?, *World Development*, Vol 19, Nr 6, 1992, pp 569-594 for an overview of this issue, but not on education). Leslie, I.L. Rates of Return as Informer of Public Policy. *Higher Education* Vol 20, 1990, gives a comprehensive description of externalities to higher education. Also, for example, Knight Sabot show how educational expansion can reduce inequalities in pay, a very important externality not normally taken into account in cost-benefit analyses. The presence of 'negative externalities' should not be neglected: for example, unemployed school leavers can be a source of political instability. Another negative externality not unknown in some developed countries is to private schooling, where the private schools prove to produce rulers, politicians and civil servants rather than entrepreneurs and industrialists...

[32] See Knight Sabot, *op cit*, pp 41-42, for evidence of this in Kenya. Where the returns to schooling are measured by wage differences associated with differences in length of schooling (assumed to be the marginal product of education), they usually assume that the average wage of standardized labour measures the wage received by the marginal (ie new entrant) worker. Because school leavers with more schooling take jobs previously taken by those with less schooling, the average wage for any given cohort may fall over time. Average and marginal wages would therefore not be equal, leading

to overestimation of returns, particularly to primary schooling. Indeed, compression of wages is another externality to take into account. In reference to their own estimates of returns to schooling, which are among the most sophisticated yet published, the authors write: 'We do not wish to perpetuate the illusion of precision created by oversimplification' (p 51).

[53] Snower, D.J., The Future of the Welfare State, *Economic Journal*, vol 103, nr 418, May 1993, pp 700-717.

[54] See, for example, Colclough, C Who Should Learn to Pay? An Assessment of Neo-liberal Approaches to Education Policy, in Colclough C. and J Manor, *States or Markets?*, Clarendon Press, 1991. Also Watson, K. Alternative Funding of Education Systems, *Oxford Studies in Comparative Education* Vol 1, 1991, pp 1 13-146.

[55] For a cogent description and analysis of this view, see Camoy M. and C Torres, *Educational Change and Structural Adjustment: A Case Study of Costa Rica*, Operational Policy and Sector Analysis Division Working Document, UNESCO, Paris, September 1992, passim and p 60.

[56] World Bank, *Financing Education in Developing Countries*. See Lockheed, M.E., A.M. Verspoor and Associates, *Improving Primary Education in Developing Countries*, Oxford, 1991, pp 173 ff, for the case against fees for primary schooling, as well as a review of issues of local finance. Curtin *op cit* presents a case for higher education subsidies. Also, V.Lavy, Investment in Human Capital: Schooling Supply Constraints in Rural Ghana, LSMS Working Paper Nr 93, World Bank, 1992.

[57] See Jimenez, E, *Pricing Policies in the Social Sectors: Cost Recovery for Education and Health in Developing Countries*, Johns Hopkins, 1987, Chap 5.

[58] There is considerable hostility to the idea of publicly funded higher education in the donor literature, while in reality it is likely that bilateral donors provide considerable support to African universities. Without making judgements on the scope and nature of externalities to higher education, the ability of 'better off' university students to pay fees, or the distribution of underfunding between levels of education, it is not in general realistic to expect many African governments to be seen to attack the university sector. A more selective approach would be to encourage more efficient institutional management and to give less support to social science faculties and poor quality 'research'. Stronger efforts to develop university-enterprise links are also much needed. Neglecting these issues on the grounds that universities are 'elitist' only raises the opportunity cost of public subsidies to higher education. See Penrose, P. *Evaluation of Linkages in the Field of Higher Education and Training: Botswana, Lesotho and Swaziland* report by DHV Consulting for the Dutch Ministry of Foreign Affairs, June 1992, Chap 5, for a summary of some of the issues. Also Coombe, T. *A Consultation on Higher Education in Africa*, Ford Foundation, Jan 1991, for a voice sympathetic to higher education but accepting the low performance in research as well as poor management. Evidence for strong bias towards social sciences and arts can be found in Association of African Universities, *Study on Cost Effectiveness and Efficiency in African Universities*, A Synthesis Report, AAU, May 1991, pp 74-81. For the failure of African universities to develop linkages with enterprises (public or private), which is related to the relatively low importance attached to physical sciences, itself related to lack of finance, see AAU, *University Productive Sector Linkages: Review of the State of the Art in Africa*, November, 1990. For a review of the issues see Saint, W.S. *Universities in Africa: Strategies for Stabilization and Revitalization* World Bank Technical Paper 194, 1992: the orientation and conclusions of this paper raise interesting questions.

[59] Thobani, M. 'Charging User Fees for Social Services: 'The Case of Education in Malawi', World Bank Staff Working Paper Nr 572, 1983. For the argument that fees should substitute for public resources, see Bertrand, T.J. and R. Griffin, The Economics of Financing Educahon: *A Case Study of Kenya*, World Bank, 1984.

[60] Earmarked taxation is in the demonology of Treasuries, which invariably disapprove of it, though its time may come. See Lockheed et al, *op. cit.* pp 189 ff for some case studies of earmarking, though some of the examples given may not be all they seem. There is a growing literature on the subject.

[61] Regressive taxation occurs when the less well off pay a greater proportion of their marginal income than the better off. The opposite is progressive taxation. Indirect taxes can be regressive: they are considered progressive when levied on 'luxury' goods. The extent to which education should be considered a luxury will vary according to type and level, and would determine the scale of regression. Many countries have moved towards regressive taxation in the last decade or so.

[62] Colclough, C. Resources for Education in Developing Countries, *International Journal of Education* Vol 10, Nrs 2/3,1990, pp 115-119.

[63] See also Jimenez, *op cit*, pp 82 ff and Table 7.5.

[64] See Brown, B.W. Why Governments Run Schools, *Economics of Education Review*, Vol 11, Nr 4, 1992, pp 287-300, for a discussion of this issue in the United States. The author suggests that regulation costs are very high and that private for-profit school owners engage in 'opportunistic behaviour' which leads to

a low quality of service.

[45] There is relatively little contemporary work on this subject. One study in Latin America shows that while average expenditure by households for each child on primary education have increased, total expenditures on education have not increased because the profits are retained by school owners and not reinvested in education. See Schiefelbein, E. Restructuring Education through Economic Competition: The Case of Chile. *Journal of Educational Administration* Vol 29, Nr 4, 1991, pp 17-29. E G West, op cit, in writing about the 'public/private displacement mechanism' suggests the reverse process took place in Britain from 1833 to 1945, as public schools took over from private schools and average expenditures on education declined (chap 15). Schiefelbein previously recorded some evidence of better examination performance in private schools in Chile (Schiefelbein, E. Education Costs and Financing Policies in Latin America. Education and Training Department Discussion Paper, World Bank, 1985).

[46] See Knight, J. Education Policy Issues in a Period of Stabilization and Structural Adjustment in Griffin & Knight, *op cit*, chap 3, especially p 66ff. 'The hope that meritocratic selection criteria would prove sufficient to ensure that the various income groups were represented in secondary schools in proportion to their numbers was disappointed in the United Republic of Tanzania... '; and '... those with the greatest ability to bear the cost of their children's education are the most likely to receive large subsidies. These results for Kenya probably have general application'.

[47] Also in many countries private or semi-private schools have been directly supported from foreign aid, which is in many cases being withdrawn.

[48] See, for example, Haddad *et al*, for a review of some evidence. For an earlier study, see Husen, T *et al*, *Teacher Training and Student Achievement in Less Developed Countries*, World Bank Staff Working Paper Nr 310, Dec 1978, p 42 *et passim*.

[49] Coombs, *op cit*.

[50] The concept of 'development' budgeting in principal incorporates the investment nature of much 'recurrent' expenditure. Unfortunately 'development' budgeting, as with capital budgeting, has too often become exclusively concerned with capturing more foreign aid.

[51] 'Rational' in the sense that reasoned justification for proposed expenditures is required. In another sense, the rationality of politicians would tend to resist reasoned technical justifications. Budgets always express tensions between different type of rationality. See, for example, Wildavsky, A. The Politics of the Budgetary Process. Little, Brown Co, 1984 (4th edition), pp 198 ff.

[52] This phenomenon is not new. It has long been recognised that the elasticity of primary school teachers' salaries to national income is less than unity (although there have been short-run exceptions). See, for an early study, Blott, D. and M Debeauvais, Education Expenditure in Developing Countries: Some Statistical Aspects, in *Financing Education for Economic Growth*, OECD, Paris, 1960, pp 73-88. The authors used a form of purchasing power parity in place of official; exchange rates, which made their findings particularly valid.

[53] Such as adult education, which in many countries is provided in different ministerial sectors.

[54] Wildavsky, *op cit*, pp 135-138, and p 216: 'The tension between analysis, which seeks out error and promotes change, and organisation, which seeks stability and promotes its existing activities, is inevitable'.

[55] Wildavsky, *op cit*; Dean, P.N. *Government Budgeting in Developing Countries*, Routledge, 1989; Babunakis, M. *Budget Reform for Government: A Comprehensive Allocation and Management System (CAMS)*, Quorum Books, 1892, p 5 *et passim*; Nozick, D. (ed, *Current Practice in Programme Budgeting*, London 1973. The reasons for the failure of the US budget reforms in the 70s were complex, but related to the political resistance to rational budgeting combined with the development of excessively complex techniques. Observers such as Wildavsky who in the end argued for the retention of incremental budgeting recognised that their criticisms were less relevant to developing countries (Caiden, N. and A. Wildavsky, *Planning and Budgeting in Poor Countries*, Wiley, 1974)

[56] Sometimes referred to as performance budgeting, or programme and performance budgeting, as in the UN *Manual for Programme and Performance Budgeting*, Department of Economic and Social Affairs, UN, 1968. See Dean, op cit, for a review of the UN manual.

[57] Or, as Wildavsky wittily puts it, 'the affair with resources has been replaced by the romance with objectives', *op cit*, 1984, p 181.

[58] See Babunakis and Nozick *op cit* respectively for summaries of US and UK experiences.

[59] It should, of course, always be emphasised that enrolment does not equal attendance, and in countries with poorly resourced systems attendance rates will predictably fall, often seasonally. Indeed, attendance rates may be viewed as 'real enrolment rates'. Where the ratio of attendance to enrolment is significantly less than unity many base planning data become meaningless, and considerable waste ensues.

[60] See Hirsch, W.Z., M J Marcus R M Gray, *Program Budgeting for Primary and Secondary Public Education: Current Status and Prospects in Los Angeles*, Praeger, 1972, for some approaches to fiscal modeling, as well as a somewhat complex example of PB from Los Angeles.

[61] This paper does not set out to review past and current PB experiences. Some countries, such as Malaysia, Sri Lanka, India, Philippines, Singapore, attempted to introduce full-scale programme budgets, with indifferent success, reviewed in Dean, *op cit*. Also the small island of Grenada in the Caribbean has programmed its budget within slightly modified budget categories: this simply allows objectives to be specified within the budget document, which would probably not be useful for a restructuring exercise in a bigger country. Some countries, such as Uganda, have converted budget votes to 'programmes'. Ghana also began to introduce elements of programming to the education sector, but it did not persist. Benin and The Gambia are currently embarking on budgeting reforms in the education sectors. Relatively few have attempted an overall reform involving three year rolling budgets linked with plans, in which the Ministry of Finance is involved in supporting sectoral reforms. Kenya introduced a three year rolling system, but its credibility may have been somewhat tarnished by inaccurate revenue forecasting and therefore a failure to allow institutions and managers to prepare for substantial contraction. Tanzania is introducing interesting reforms in social sector budgeting. Other countries which have introduced forward budgeting include Botswana.

[62] Examples of the types of suitable training materials are found in IIEP, *Educational Cost Analysis and Budgeting Report of a Training Programme, Saltpond, Ghana*, UNESCO, 1989; and UNESCO, *Report on Trainers' Training Programme in Educational Cost Analysis and Budgeting at the District Level*, Ghana Ministry of Education/UNESCO/UNDP, August 1991, available from UNDP.

[63] Dean, *op. cit.*, pp 138-139.

[64] UNESCO *Manual on the Application of URC Norms to Programme Linked Budgeting*, Republic of Ghana Ministry of Education, UNESCO / UNDP Document Nr 20, October 1989.

[65] See CIPFA, Capital *Accounting in Local Authorities: The Way Forward*, Chartered Institute of Public Finance and Accounting, Feb 1989.

[66] Capital expenditure in the education sector is sometimes difficult to define. In some cases, such as textbooks, expenditure on depreciating assets is treated as recurrent expenditure. In fact, textbooks may be also considered as capital expenditure with a two or three year straight line depreciation, though of course in reality books deteriorate most rapidly at the end of their lives. See MacGregor, C., K. Mortimer T. Lisher, *Study on Book Provision in Kenyan Education* ODA/World Bank, November 1990, East Africa Dept of the World Bank.

[67] Penrose, P., T.C. Gardrler B. Shone, *Budgeting for Higher Education in Ethiopia*, Commission for Higher Education, Ethiopia, 1987.

[68] Such as earmarking by donors for specific purposes and the problem of aid fungibility. See Maxwell, S. (editor), Counterpart Funds and Development. *IDS Bulletin*, Vol 23, Nr 2, April 1992.

[69] General reviews include Riddell, R.C. *Foreign Aid Reconsidered*, Currey, 1987, and Cassen, R. and Associates, *Does Aid Work?*, Clarendon Press, 1986.

[70] See Doriye, J. M. Wuyts, Aid. Adjustment and Sustainable Recovery - The Case of Tanzania. Working Paper for the Department of Economics, School of Oriental and African Studies, London University, March 1992.

[71] Berg, *op cit*, p 14.

[72] Having said all this, there is a disturbing tendency for aid donors and lenders to be fixated on the issue of reporting external assistance at the expense of supporting recurrent budget reform and improvement. Terms of Reference for some World Bank Public Expenditure Reviews, for example, arguably lay excessive emphasis on aid budgeting and expenditures and result in insufficient analysis of recurrent budgeting issues.

[73] Such techniques would not, of course, overcome problems of aid fungibility, but all of the proposals in this paper presuppose the improvement of the public sector planning and administration culture so that deliberate subversions of the system are reduced.

[74] To achieve total success in passing aid funds through consolidated revenue accounts is probably not possible. Donors will always have grounds to suspect that government policies are not in harmony with aid policies. For example, the European Commission is currently in dispute with the UK government over regional funds: normal UK leasury practice is that all funds go through the Treasury, while the EC does not accept that the Treasury will pass them in full to the regions (*Financial Times*, Feb 25, 1993).

[75] Penrose, E. *The Theory of the Growth of the Firm*, Basil Blackwell, 1959, p 44.

[76] *Ibid*, chapter 4.

[77] Pearce, D., E Barbier A Markyanda, *Sustainable Development, Economics and Environment in the Third*

World, Earthscan, 1990, ch 1; Redclift, M. *Sustainable Development, Exploring the Contradictions*, Routledge, 1987, chs 2 & 3.

35A

BIBLIOGRAPHY

Arndt, H. W 'Market Failure' and Underdevelopment, *World Development*, Vol 16 Nr 2, Feb 1988

Association of African Universities, *Study on Cost Effectiveness and Efficiency in African Universities, A Synthesis Report*, AAU, May 1991

Association of African Universities, *University Productive Sector Linkages: Review of the State of the Art in Africa*, AAU, November 1990

Babunakis, M. *Budget Reform for Government: A Comprehensive Allocation and Management System (CAMS)*, Quorum Books, 1982

Beeby, C.E. *The Quality of Education in Developing Countries*, Harvard University Press, 1966

Berg E. *Rethinking Technical Cooperation: Reforms for Capacity Building in Africa*, UNDP, 1993

Bertrand, T.J. and R. Griffin, *The Economics of Financing Education: A Case Study of Kenya*, World Bank, 1984

Blaug, M. *Education and the Employment Problem in Developing Countries*, ILO, 1973

Blott, D. and M. Debeauvais, Education Expenditure in Developing Countries: Some Statistical Aspects, in *Financing Education for Economic Growth*, OECD, Paris, 1960

Brown, B.W. Why Governments Run Schools, *Economics of Education Review*, Vol 11, Nr 4, 1992, pp 287-300

Caiden, N. and A. Wildavsky, *Planning and Budgeting in Poor Countries*, Wiley, 1974

Carnoy M. and C. Torres, *Educational Change and Structural Adjustment: A Case Study of Costa Rica*, Operational Policy and Sector Analysis Division Working Document, UNESCO, Paris, September 1992

Cassen, R. and Associates, *Does Aid Work?*, Clarendon Press, 1986

CIPFA, *Capital Accounting in Local Authorities: The Way Forward*, Feb 1989

Colclough, C. Resources for Education in Developing Countries, *International Journal of Education*, Vol 10, Nrs 2/3, 1990, pp 115-119

Colclough, C. Who Should Learn to Pay? An Assessment of Neo-liberal Approaches to Education Policy, in Colclough and Manor

Colclough C. and J. Manor, *States or Markets?*, Clarendon Press, 1991

Colclough C. with K. Lewin, Educating All the Children, Oxford, 1993.

Coombs, P.H. *What is Educational Planning?*, IIEP, 1970

Coombe, T. *A Consultation on Higher Education in Africa*, Ford Foundation, Jan 1991

Curtin, T. *The Economics of Public Investment in Education in Papua New Guinea*, University of Papua New Guinea Press, 1991

Dean, P.N. *Government Budgeting in Developing Countries*, Routledge, 1989

Devon, R.F. Foster's Paradigm Surrogate and the Wealth of Underdeveloped Nations, *Comparative Education Review*, October 1975

Dore, R. *The Diploma Disease*, Allen and Unwin, 1976

Doriye, J. and M. Wuyts, Aid, Adjustment and Sustainable Recovery - The Case of Tanzania, Working Paper for the Department of Economics, School of Oriental and African Studies, London University, March 1992

Dougherty, C. Education and Skill Development, Asian Development Bank/World Bank Seminar on Vocational and Technical Education and Training, Manila, January 1990

Eicher, J.C. *Educational Costing and Financing in Developing Countries*, World Bank Staff Working Papers Nr 655, 1984

Fanelli, J.M., R. Frenkel & L. Taylor, The World Development Report 1991: A Critical Assessment, Feb 1992

Foster, P. Dilemmas of Educational Development; What We Might Learn from the Past, *Comparative Education Review*, October 1975

Glewwe, P. Schooling, Skills and Investment in Education, LSMS Working Paper Nr 76, World Bank, 1991.

Griffin K. and J. Knight (ed), *Human Development and the International Development Strategy for the 1990s*, Macmillan, 1989

Haddad, W.D. *et al. Education and Development: Evidence for New Priorities*, World Bank Discussion Papers Nr 95, 1990

Hallak, *J. A Qui Profite L'Ecole?* Presses Universitaires de France, 1974

Hallak, J. Education for All: High Expectations or False Hopes?, presented to the Oxford Conference, September 1991

Helleiner, G.K. Africa's Adjustment and External Debt, *World Development*, Vol 20, Nr 6, 1992, pp 779-792

Hinchliffe, K. Federation and Education Finance: Primary Schooling in Nigeria, *International Journal of Education Development*, Vol 9, Nr 3, 1990

Hirsch, W.Z., M.J. Marcus & R.M. Gray, *Program Budgeting for Primary and Secondary Public Education: Current Status and Prospects in Los Angeles*, Praeger, 1972

Husen, T. *et al, Teacher Training and Student Achievement in Less Developed Countries*, World Bank Staff Working Paper Nr 310, Dec 1978

IIEP, *Educational Cost Analysis and Budgeting: Report of a Training Programme, Saltpond, Ghana*, UNESCO, 1989

Jimenez, E. *Pricing Policies in the Social Sectors: Cost Recovery for Education and Health in Developing Countries*, Johns Hopkins, 1987

Killick, T. *A Reaction too Far: Economic Theory and the Role of the State in Developing Countries*, ODI London, 1989

Knight, J. Education Policy Issues in a Period of Stabilization and Structural Adjustment in Griffin & Knight

Knight, J.B. and R.H. Sabot, *Education, Productivity, and Equality: The East African Natural Experiment*, OUP, 1990

Lall, S. Human Resources Development and Industrialization, with Special Reference to Sub-Saharan Africa, in Griffin and Knight

Levy, V. Investment in Human Capital: Schooling and Supply Constraints in Rural Ghana, LSMS Working Paper Nr 93, World Bank, 1992.

Leslie, L.L. Rates of Return as Informer of Public Policy, *Higher Education*, Vol 20, 1990

Lockheed, M.E., A.M.Verspoor and Associates, *Improving Primary Education in Developing Countries*, Oxford, 1991

MacGregor, C., K. Mortimer & T. Lisher, *Study on Book Provision in Kenyan Education*, ODA/World Bank, November 1990

Maxwell, S. (editor), Counterpart Funds and Development, *IDS Bulletin*, Vol 23, Nr 2, April 1992

Nozick, D. (ed), *Current Practice in Programme Budgeting*, London 1973.

Penrose, E. *The Theory of the Growth of the Firm*, Basil Blackwell, 1959

Penrose, P., T.C. Gardner & B. Shone, *Budgeting for Higher Education in Ethiopia*, Commission for Higher Education, Ethiopia, 1987

Penrose, P. *Evaluation of Linkages in the Field of Higher Education and Training: Botswana, Lesotho and Swaziland*, Dutch Ministry of Foreign Affairs, June 1992

Penrose, P. *Issues in Education Finance and Planning in Nigerian Secondary Education*, World Bank West Africa Department, April 1992

Penrose, P. *Review of Public Expenditures in the Education Sector in Tanzania*, European Commission, July 1992

Psacharopoulos, G. and M. Woodhall *Education for Development: An Analysis of Investment Choices*, OUP, 1985

Psacharopoulos, G. Priorities in the Financing of Education, *International Journal of Educational Development*, Vol 10, Nrs 2/3, 1990, pp 157-162

Riddell, R.C. *Foreign Aid Reconsidered*, Currey, 1987

Sahn, D.E. Public Expenditures in Sub-Saharan Africa During a Period of Economic Reform, *World Development*, Vol 20, nr 5,1992, pp 673-693

Saint, W.S. *Universities in Africa: Strategies for Stabilization and Revitalization*, World Bank Technical Paper 194, 1992

Schiefelbein, E. Restructuring Education through Economic Competition: The Case of Chile, *Journal of Educational Administration*, Vol 29, Nr 4, 1991, pp 17-29

Snower, D.J. The Future of the Welfare State, *Economic Journal*, vol 103, nr 418, May 1993, pp 700-717

Stewart, F. & E Ghani, How Significant are Externalities for Development?, *World Development*, Vol 19, Nr 6, 1992, pp 569-594

Stromquist, N. A Review of Educational Innovations to Reduce Costs in *Financing Educational Development:* Proceedings of an International Seminar held in Mont Saint Marie, Canada, 19-21 May 1982, IDRC and CIDA, pp 69-94

Thobani, M. *Charging User Fees for Social Services: The Case of Education in Malawi*, World Bank Staff Working Paper Nr 572, 1983

Tilak, J.B.G. *Education and Its Relation to Economic Growth, Poverty, and Income Distribution: Past Evidence and Further Analysis*, World Bank Discussion Paper Nr 46, 1989

UNESCO *Manual on the Application of URC Norms to Programme Linked Budgeting*, Republic of Ghana

Ministry of Education, UNESCO/UNDP Document Nr 20, October 1989

UNESCO *Report on Trainers' Training Programme in Educational Cost Analysis and Budgeting at the District Level*, Ghana Ministry of Education/UNESCO/UNDP, August 1991

UNICEF, *The State of the World's Children*, OUP, 1993

United Nations, *Manual for Programme and Performance Budgeting*, Department of Economic and Social Affairs, UN, 1968

Watson, K. Alternative Funding of Education Systems, *Oxford Studies in Comparative Education*, Vol 1, 1991, pp 113-146

West, E.G. *Education and the Industrial Revolution*, Batsford, 1975

Wildavsky, A. *The Politics of the Budgetary Process*, Little, Brown & Co, 1984 (4th edition)

Woo, J.H. Education and Economic Growth in Taiwan: A Case of Successful Planning, *World Development*, Vol 19, Nr 8, 1991

World Bank, *Financing Education in Developing Countries: An Exploration of Policy Options*, 1986

World Bank, *Nigerian Secondary Education Sector Report: A Study in Contrasts*, West Africa Department, August 1991

World Bank, *Sub-Saharan Africa: From Crisis to Sustainable Growth*, 1989

Zymelman, M. *The Burden of Education Expenditures and its Forecast*, World Bank, Washington, 1978

BEST COPY AVAILABLE

DFID Department for International Development

Department For International Development
94 Victoria Street
London SW1E 5JL

ISBN 0 90250 067 8